



Ministry of
Science &
Technology



Ministry of
Earth
Sciences



INDIA INTERNATIONAL SCIENCE FESTIVAL 2016

National Physical Laboratory
New Delhi, India
7 - 11 December, 2016

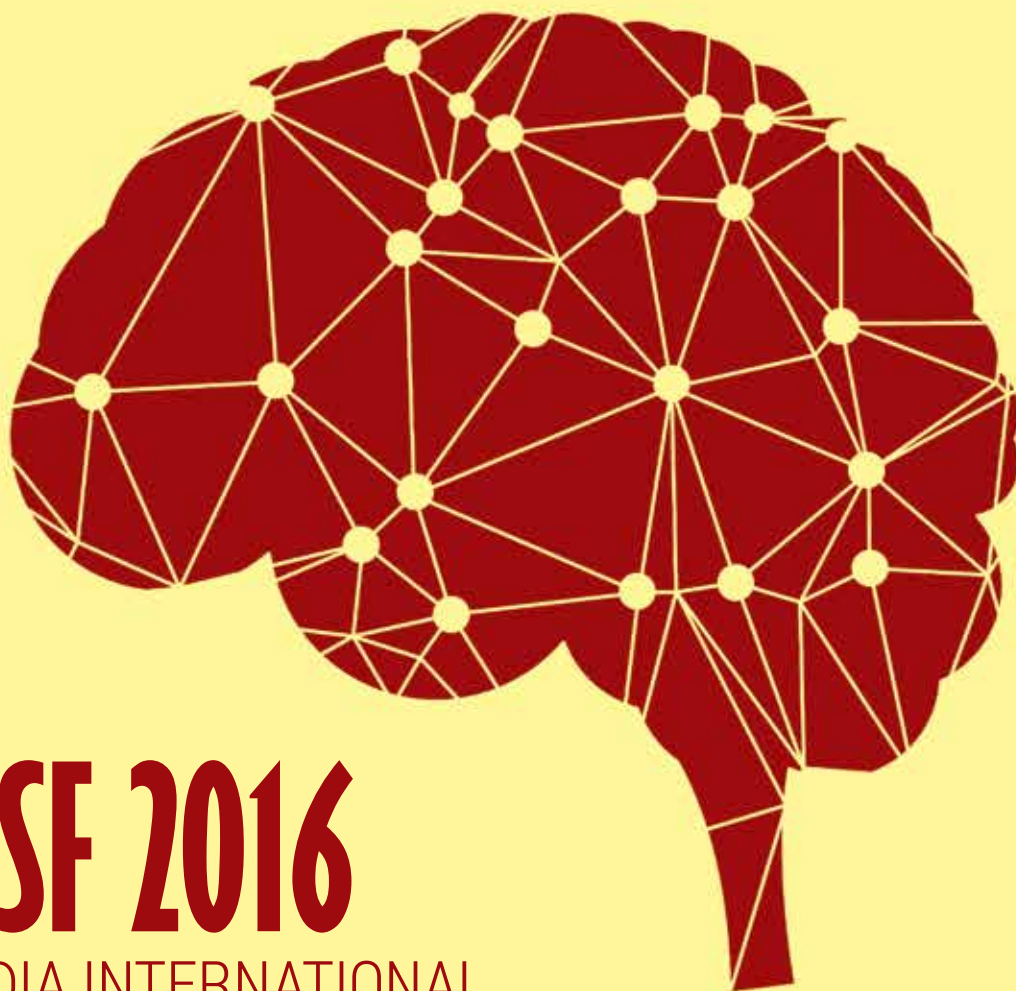
www.scienceindiafest.org



Council for
Scientific &
Industrial
Research



CSIR-NPL



IISF 2016

INDIA INTERNATIONAL SCIENCE FESTIVAL 2016

The 2nd India International Science Festival (IISF-2016), will be held at National Physical Laboratory, New Delhi from 7th to 11th, December 2016. IISF-2016 is being organised by Ministry of Science & Technology, Ministry of Earth Sciences & Vijnana Bharati (VIBHA). This event is co-ordinated by Council for Scientific and Industrial Research (CSIR) and hosted by National Physical Laboratory (NPL).

The series of India International Science Festival (IISF) is an integral part of India's long term vision in developing and widening the spectrum of scientific temper in India and abroad. The festival is primarily aimed to involve commoners with a view to improve their scientific understanding, temperament and appreciation for various Indian achievements in the field of science & technology.

The 1st IISF was held at Indian Institute of Technology (IIT), New Delhi during 4 to 8 December, 2015. This event was a grand success in which more than 3000 young scientists participated from across the country. The mega S&T expo attracted more than 3 Lakh people. VIBHA became the Guinness Book World Record Holder for the successful conduct of the 'Largest Practical Science Lesson' with the participation of 2000 students from prestigious schools of Delhi.

The 2nd IISF-2016 is planned to be an event of even greater magnitude than its predecessor and would offer more to the masses and the nation at large in its scale and scope.



It is wrong to believe blindly. You must exercise your own reason and judgment; you must practice, and see whether these things happen or not. Just as you would take up any other science, exactly in the same manner you should take up this science for study...

Swami Vivekananda



SCIENCE FOR THE MASSES

Today in India 69% of the population live in rural areas, with persisting structural problems such as, agriculture, health, water, sanitation, housing etc. Rural India is desperately seeking development on multiple fronts. On the other hand, the world has taken note of India's demographic dividend in having a significant percentage of population being young. All these necessitate that, the country continuously strives for growth and development through investment in science and research.

In this background the focal theme of the 2nd India International Science Festival-2016 is set as "Science for the masses."

The 2nd IISF-2016 aims to communicate science and technology to masses and provide a common platform to people and scientists. Further, it supports to make innovation useful for the people and develop technology that is affordable to the masses. The programme also aims to stimulate scientific temper and organises such efforts throughout the country.

focal theme



Science and Technology policy of any nation is carved within the background of overall integration of the society. The mega India International Science Festival (IISF) aims to engage masses in scientific research and technological development to take the nation on the path of rapid development, growth and prosperity.

Dr. Girish Sahni
Secretary, CSIR



Nation's development at any phase is always linked with technology and technology happens when there is advancement in science. The India International Science Festival (IISF) aims to fulfil the aspiration of India's scientific and technological advancement.

Prof. Ashutosh Sharma
Secretary, DST



India has been giving a special attention to develop and promote scientific and industrial development with several policy initiatives. The series of India International Science Festival (IISF) is one of the key initiative to develop scientific temper among the masses for future Innovation.

Dr. M Rajeevan
Secretary, Ministry of Earth Sciences



Indian Science is regarded as one of the most powerful instrument of growth and development especially in the emerging competitive economies. Science in India uniquely links to knowledge, discovery and innovation to application. The India International Science Festival (IISF) aims to provide a complete platform for the exchange of knowledge & ideas.

Prof. K Vijay Raghavan
Secretary, DBT



About 50% of our earning workforce comes from villages and from agriculture. If we have to transform masses, science and technology will have to be employed as the major instrument of transformation. In IISF, we will showcase scientific and technological innovations that can bring about a quantum change in our villages, in agriculture, in rural development, in Clean India Movement and chart out the course of India's forward march to a glorious nation, reclaiming her past glory.

Dr. Vijay P Bhatkar
President, Vijnana Bharati

डॉ. हर्ष वर्धन
DR. HARSH VARDHAN



मंत्री
विज्ञान और प्रौद्योगिकी एवं पृथ्वी विज्ञान
भारत सरकार
नई दिल्ली - 110001
MINISTER
SCIENCE & TECHNOLOGY AND EARTH SCIENCES
GOVERNMENT OF INDIA
NEW DELHI - 110001

Message

In recent years India has successfully made transition to a Knowledge Economy. As a nation, we are now creating new knowledge, disseminating it and deploying it to accelerate development. In a knowledge economy, the real engines of development are powered by invention and innovation. We thus need to invent and innovate more and more and also benefit all the stakeholders in doing so.

The role of "Responsible Innovation" is being understood in our Country in letter and spirit. Its deployment however requires building up of a seamless ecosystem of researchers, entrepreneurs and enabling institutions. Such an ecosystem should not be risk averse. Our Country is steadfastly marching towards that, and I see Ministries of Science and Technology and Earth Sciences playing a significant role through its constituent departments and their laboratories – forming an "Innovation System" in its own right.

Our nation and our people will always remain a priority for the S&T that we pursue. A strong framework for linking science and society is thus critical. Science, Technology and Innovation faces an enhanced challenge today, the challenge of responding faster to the needs of people on one hand and the needs of a globalized economy, on the other. The globalized economy – which has today become, completely the "Global Innovation Economy" poses numerous challenges in itself. This economy is throwing up newer formats of partnerships. There present new opportunities but they require innovation in every sphere, transdisciplinary skills to achieve the same, and economies of scale with wide stakeholder participation. The meeting of innovative minds is thus necessary and a platform for this purpose is required to be set up.

The India International Science Festival (IISF) has created a platform which is an integral part of India's march to create an innovative society which could play a role in "Indian Innovation Economy". The grand success of IISF-2015 last year has set a unique example of holding an inimitable festival of science for serving the citizens. The IISF-2016, therefore, aims to communicate Science and Technology to the masses and seeks their partnership in deploying it.

I appreciate the joint efforts of the Ministries of Science & Technology and Earth Sciences together with Vijnana Bharati in organizing the second edition of IISF. I thank the CSIR-National Physical Laboratory (CSIR-NPL) for providing the venue for the event. This year CSIR is celebrating its 75th birth anniversary. An integration of its Platinum Jubilee celebrations along with IISF-2016 would add great value and verve to this year's festival.

I extend a very warm welcome to all dignitaries, from India and overseas and request you to make this event a grand success.

With Best Wishes!


(Dr. Harsh Vardhan)

For Young Scientists



Young Scientists Meet

December 8 -11

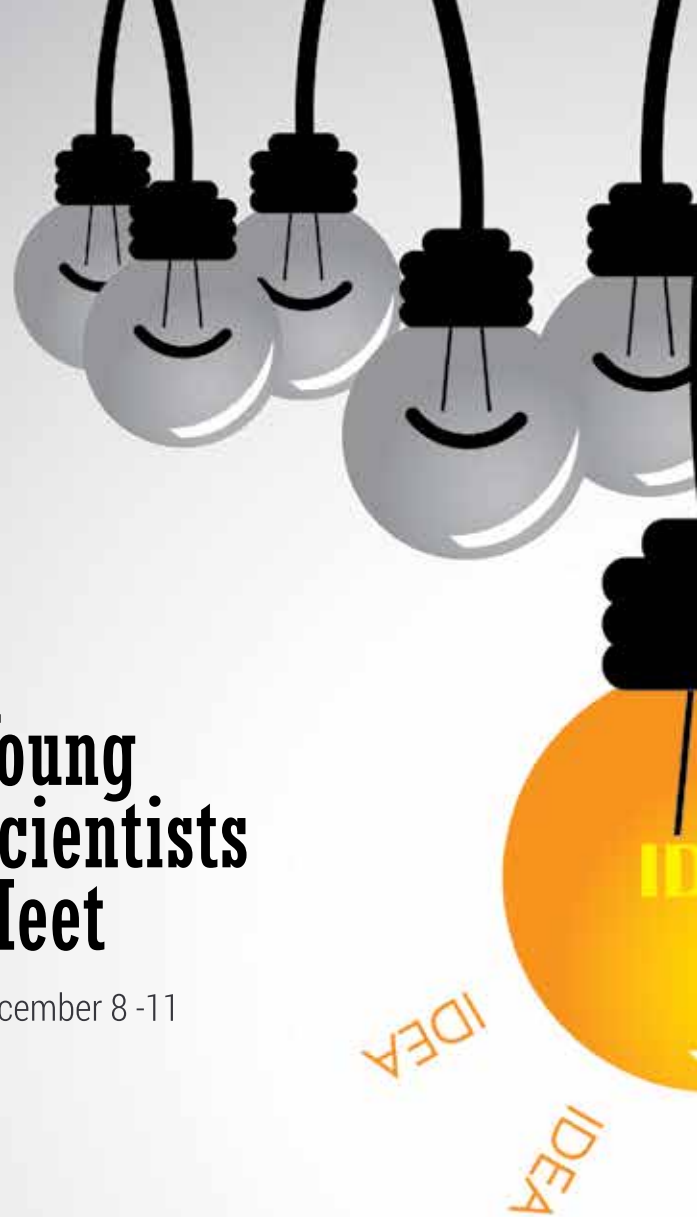
Young people are the innovators and future leaders for any nation and they can transform the future of the country. The Young Scientist Meet is an effort to provide an opportunity for young scientists from all over country and abroad to showcase their innovations and appropriate technologies for the masses.

This meet is primarily meant for the scientists/ researchers/ science innovators / professional students below age of 45 years old. Delegates can be nominated by their respective Labs and also can be registered individually through the website of IISF-2016 at free of cost. The selected delegates will be invited by the organising committee.

This programme consists of plenary sessions on specific subjects of national importance and Government of India missions, which will be delivered by the distinguished scientists and experts.

This event will also provide an opportunity for Researchers to present their workable projects and models. The medium of exchange of ideas shall be videos, sketch, powerpoint presentations and posters. The best projects will be awarded.

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Scientific Workshops



December 9 -10

The science festival also aims to organize workshops with internationally renowned researchers for young scientists.

Topics :

- Research paper- essential components, organization and conclusion
- Drafting a research project proposal
- Information on 'Start up', 'Stand up' and incubation centres
- Firsthand information on patent filing and protection of intellectual property rights (IPRs)

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National Level Competition



Ideas for Bharat Nirman

The burning issues of society in different parts of country will be shared through photos/videos and write ups in the web portal of IISF. Innovative scientific solutions to these issues are invited from students and public. The solutions can be submitted in the form of essays or power point presentations with supporting videos and photographs to the IISF secretariat. The best solutions will be awarded in the valedictory function of IISF-2016.

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**For School
Students...**

**DST-INSPIRE
National level camp**

December 10 -11

It will showcase innovative science models and presentations created by students as part of 'Innovation in Science Pursuit for Inspired Research (INSPIRE)'- a programme sponsored and managed by the Department of Science & Technology for attracting young talent and encouraging the pursuit of science.

State level INSPIRE winners will exhibit their projects and the winners will be awarded in the valedictory function of IISF-2016.

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Science Village/ Mega Student Camp

December 8 -11

The prime goal is to give exposure to the students from rural areas about the new frontiers in Science and Technology. The science village program is linked with 'Sansad Adarsh Gram Yojana' and the parliamentarians will be sending five students from their adopted villages to the IISF. The program is targeted for School students of class 9th to 11th from Rural India. 3000 students will be participating in the event across the country.

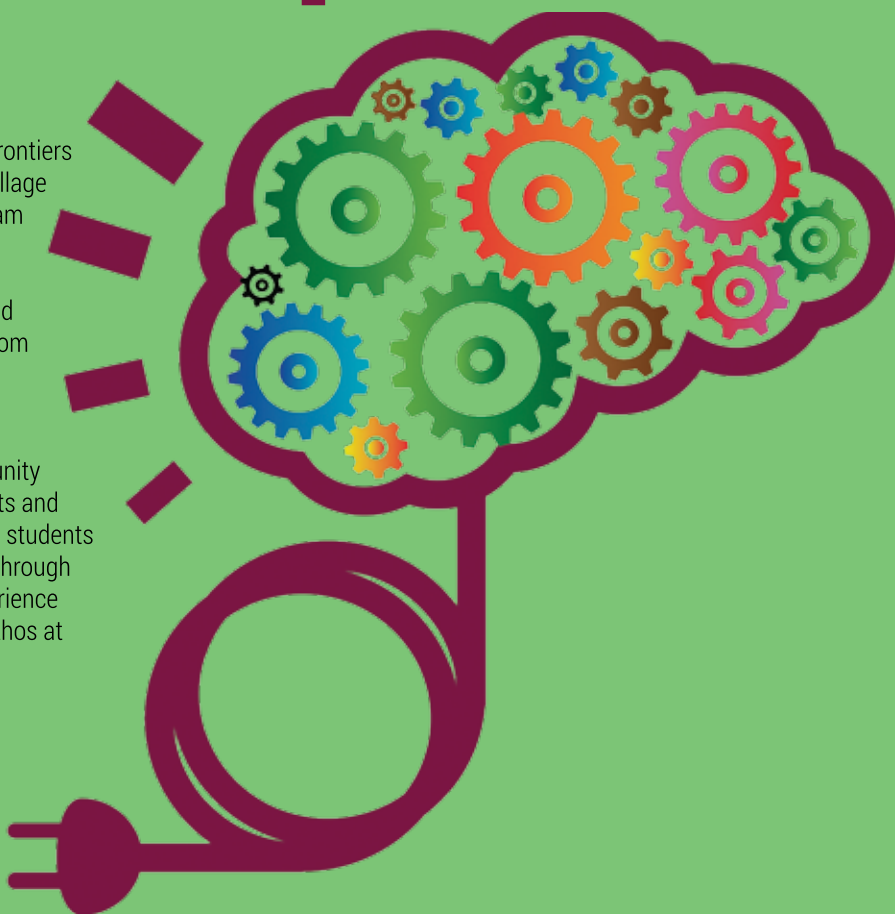
The participants will get an ample opportunity to visit R&D labs, live hands on experiments and workshops during the festival. Further, the students can interact with the eminent scientists. Through this the students will get right global experience and also help them to develop scientific ethos at the prime age.

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Involving Students in Guinness Book of World Records

December 9

The largest number of students participating in a science demo is an attempt to set a new Guinness world record.

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Industry Academia Interaction

December 8 -11

IISF invites institutions created by top industrialists of the country and the eminent academicians who developed industries in the country. Prominent industries who would like to tie up with major academic institutions of the country including research and development organizations under CSIR/DBT/DST. To understand the diverse potential of industrial sector of this country major government as well as private institutions will get opportunity in this meet.

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Showcasing of Outstanding Achievements

December 7 -11

The major R&D Labs in India will be showcasing one of the outstanding achievement that has been developed by the respective lab in the recent past. Technologies developed by the scientists will be explained to the masses. The best one for its significant contributions to the masses will be awarded.

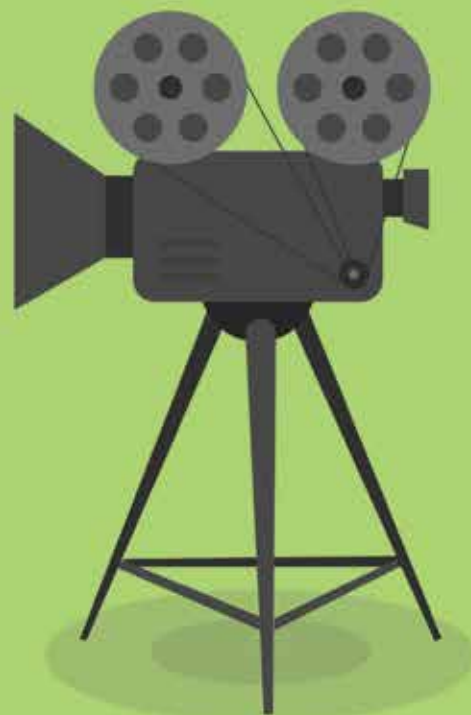
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International Science Film Festival

December 8 -11

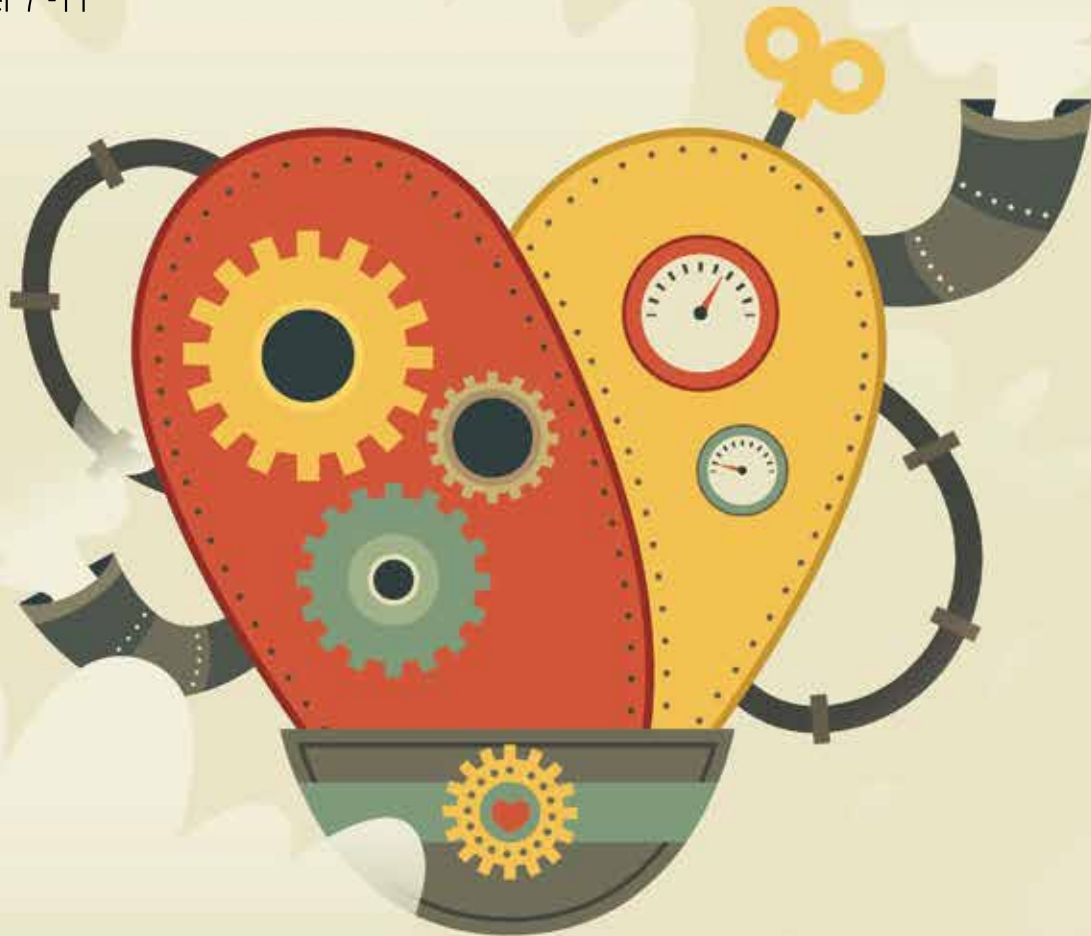
Films about science play a vital role in today's increasingly science oriented world. Moreover, film is the most effective medium of communication. The planned International Science Film Festival aims to conduct film screening based on contemporary and globally acclaimed science films of scientific innovation and success stories. It also explores new vistas in developing digital tools to communicate science. The prime objective of the programme is to strengthen the importance of science films. To promote an Indian network of science communicators, film makers, film producers and festival organizers. Further, it also encourage the provision of science films for an interested audience including masses, students teachers and scientists.

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Mega Science Technology & Industry Expo

December 7 -11



The Mega Science Expo aims to showcasing the Indian Contribution in the World of Science both Ancient and Modern and also emphasizes inter-dependence of science-technology - innovation and society. The major highlights of the Expo will be :-

- Science Museum and Scientific games, Day time Astronomy, Science quizzes and many more attractions for visitors.
- Pavilion on "the lives of renowned scientists"
- The pavilions on Govt. Missions like Swachh Bharat, Make in India, Digital India, Swasth-Bharat, Smart Cities, Namami Gange, Unnat Bharath Abhiyan etc.
- The pavilion on new technologies and innovations for Artisans and Farmers.
- Pavilion on Innovation for Masses
- The stalls for scouting, sustaining and scaling up the grass-roots innovations across the country.
- Theme based pavilions by R & D institutions such as DRDO, ISRO, CSIR, DST, DAE, ICAR, ICMR etc.

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Outreach & Pre-event activities

All R&D Institutions under the Ministry of Science and Technology and Ministry of Earth Sciences will conduct one day outreach program at their respective labs in the month of November in the name of IISF-2016. Students, commoners, social leaders will be involved in this one day program. Each institution will keep the labs open for the masses. Public can interact with scientists and familiarise the contributions made by the lab for the society and nation at large.



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Cultural Programs

December 7 -10

A huge country like India is symbolized by its variety of culture. In this festival of science, feel the cultural heritage of India by variety of traditional arts representing various localities of the country.

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Organisers



Ministry of
Science &
Technology

Ministry of Science & Technology

Since its establishment in 1971, the Ministry has emerged as a nodal agency of the Government of India for promotion of scientific research in the country. The Ministry has been readjusting its programmes and plans to suit the changing needs of the S & T sector of the country with the Vision.

“India becoming a global knowledge power with strong capabilities in basic research, development and innovation for globally competitive and inclusive growth to power technology-led economic progress of the society.”

Ministry of Science & Technology consists of three departments : Department of Science & Technology for Strengthening National Capacity, Capability in S & T with Nodal function in the promotion of Indian R & D.

Department of Biotechnology to Develop Life Sciences and Biotechnology for the Nation with node promotion of Life Sciences and Biotech.

Department of Scientific & Industrial Research to promote industrial research through enabling policy environment supporting R & D.

Website : www.dst.gov.in



Ministry of
Earth Sciences

Ministry of Earth Sciences

The Ministry of Earth Sciences was formed in 2006 from a merger of the India Meteorological Department (IMD), the National Centre for Medium Range Weather Forecasting (NCMRWF), the Indian Institute of Tropical Meteorology (IITM), Pune, and Earth Risk Evaluation Centre (EREC), and the Ministry of Ocean Development.

The Ministry of Earth Sciences (MoES) is mandated to provide the nation with best possible services in forecasting the monsoons and other weather/climate parameters, ocean state, earthquakes, tsunamis and other phenomena related to earth systems through well integrated programmes. The Ministry also deals with science and technology for exploration and exploitation of ocean resources (living and non-living), and play nodal role for Antarctic/Arctic and Southern Ocean research. The mission of MoES is to

conduct scientific and technical activities related to Earth System Science for improving forecasting of weather, monsoon, climate and hazards, exploration of polar regions, seas around India and develop technology for exploration and exploitation of ocean resources (living and non-living), ensuring their sustainable utilization.

During the recent years, several major milestones have been accomplished under various schemes of the Ministry of Earth Sciences. It has significantly achieved in fields of weather, climate, ocean and seismological services. These and related achievements include a wide variety of applications of immediate relevance to quality of life.

Website : www.moes.gov.in



The Council of Scientific & Industrial Research (CSIR)

The Council of Scientific & Industrial Research (CSIR) the premier industrial R&D organization in India was constituted in 1942 by central legislative assembly. It is an autonomous body registered under the Registration of Societies Act of 1860. It is known for its cutting edge R&D knowledge base in diverse S&T areas, is a contemporary R&D organization. Having pan-India presence, CSIR has a dynamic network of 38 national laboratories, 39 outreach centres, 3 Innovation Complexes and 5 units. CSIR's R&D expertise and experience is embodied in about 4600 active scientists supported by about 8000 scientific and technical personnel.

CSIR covers a wide spectrum of science and technology from radio and space physics, oceanography, geophysics, chemicals, drugs, genomics, biotechnology and nano technology to mining, aeronautics, instrumentation, environmental engineering and information technology. It also provides significant technological intervention in many areas with regard to societal efforts which include environment, health, drinking water, food, housing, energy, farm and non-farm sectors.

Pioneer of India's intellectual property movement, CSIR today is strengthening its patent portfolio to carve out global niches for the country in select technology domains. CSIR's mission is "to build a new CSIR for a new India" and CSIR's vision is to "Pursue science which strives for global impact, technology that enables innovation-driven industry and nurture trans-disciplinary leadership thereby catalyzing inclusive economic development for the people of India".

Website : www.csir.res.in



Vijnana Bharati

Vijnana Bharati or VIBHA is a national movement dedicated to the integrated development of Bharat through the intervention of science, engineering and technology. Launched in 1991 by a group of thinkers and scientists, VIBHA has today, 21 units spread across the country and a few overseas units as well. Eminent scientists, academicians, policy makers, and social workers are the torch bearers of this movement.

VIBHA takes the spirit of 'Swadeshi' along with the ethos of our cultures. It emphasizes that science and spirituality should go hand in hand. VIBHA works towards rural development, technology transfer and social empowerment so as to bring the fruits of advancement of science and technology for the

benefit of the society. It has received two national awards for popularizing science and technology: one in 2006 from Dr Manmohan Singh, Hon'ble Prime Minister of India, and the other in 2007 from Mr Kapil Sibal, Hon'ble Minister for Science and Technology, Government of India.

VIBHA works towards national self-reliance and a developed India. Towards this mission, VIBHA adopts, adapts and assimilates the best from everywhere and associates with the best of universities, R&D organizers, and other movements.

Website : www.vibhaindia.org



The National Physical Laboratory

The National Physical Laboratory is the National Metrology Institute of India and a Premier Research Laboratory in the field of Physical Sciences. The NPL was conceptualized in 1943 by the Governing Body of Council of Scientific and Industrial Research (CSIR), with a view to pave way for using science and technology as a means for industrial growth and development, as well as to give fillip to the fledging Indian

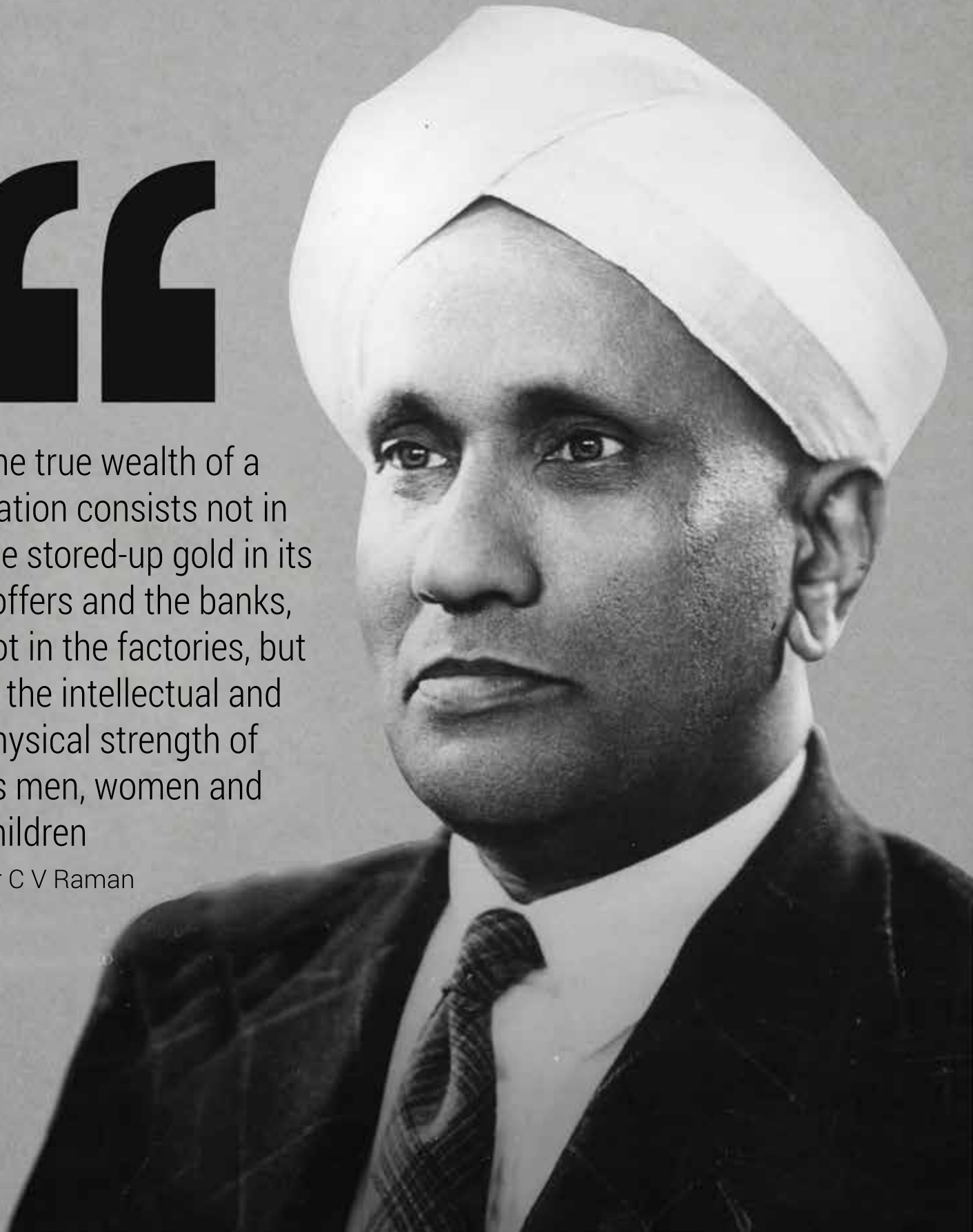
industry. NPL was one of the first National Laboratory to be set-up under the CSIR. Over the years, the Laboratory has more than realized its primary mandate as the keeper of Measurement Standards for the nation while also substantially expanding its research activities to emerge as a leading national institution for research in a whole gamut of areas in the Physical Sciences.

Website : www.nplindia.org

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The true wealth of a Nation consists not in the stored-up gold in its coffers and the banks, not in the factories, but in the intellectual and physical strength of its men, women and children

Sir C V Raman



Steering Committee

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Dr. Harsh Vardhan

Hon'ble Union Minister for Science and Technology and Earth Sciences, Govt. of India

Patron

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