



Department of Science & Technology

NAN  HORIZONS



December 7-8, 2017 • The Lalit Ashok, Bengaluru

EVENT REPORT

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▶ DAY 1 CONFERENCE PROGRAMME | Thursday, 7th December, 2017

08.30 am onwards	Registration (<i>Art Gallery</i>)
10.00 am - 11.15 am	Inauguration of the Event (<i>Kalinga I</i>); Expo and Poster (<i>Magadh</i>)
11.15 am - 11.45 am	Tea / Coffee Break
11.45 am - 12.30 pm	Keynote Lecture - I (<i>Grand Ballroom</i>)
12.30 pm - 01.15 pm	Keynote Lecture - II (<i>Grand Ballroom</i>)
01.15 pm - 02.45 pm	Lunch and Visit to Expo & Poster
02.45 pm - 04.15 pm	Nano-Sensors (<i>Grand Ballroom</i>)
04.15 pm - 04.30 pm	Tea / Coffee Break
04.30 pm - 06.00 pm	Nano in Energy Sector (<i>Grand Ballroom</i>)
06.30 pm onwards	Nano Excellence Awards (<i>Kalinga I</i>) & Networking Dinner

▶ DAY 2 CONFERENCE PROGRAMME | Friday, 8th December, 2017

08.30 am onwards Registration (Art Gallery)		
09.30 am - 10.15 am Keynote Lecture - III (Lalit 3&4)		
10.15 am - 11.00 am Keynote Lecture - IV (Lalit 3&4)		
11.00 am - 11.30 am Tea / Coffee Break		
11.30 am - 01.00 pm Nano for the Young (Kalinga I)	11.30 am - 01.00 pm NanoSparX Competition (Lalit 3&4)	11.30 am - 01.00 pm Poster Interactive Session (Magadh)
01.00 pm - 02.00 pm Lunch and Visit to Expo & Poster		
02.00 pm - 03.30 pm Nano Manufacturing and Scalability (Lalit 1&2)	02.00 pm - 03.30 pm Nano-Medicine (Lalit 3&4)	
03.30 pm - 04.00 pm Tea / Coffee Break		
04.00 pm - 05.15 pm Research Industry Collaboration Hub (RICH) Presentations (Lalit 3&4)		
05.15 pm - 06.00 pm NanoSparX & Poster Awards and Valedictory (Lalit 3&4)		

▶ POST CONFERENCE TUTORIALS | Saturday, 9th December, 2017

09.00 am onwards	Registration (<i>Art Gallery</i>)
09.45 am - 11.00 am	Nano Fabrication Technologies Part- I (<i>Lalit 3&4</i>)
11.00 am - 11.15 am	Tea / Coffee Break
11.15 am - 12.30 pm	Nano Fabrication Technologies Part- II (<i>Lalit 3&4</i>)
12.30 pm - 01.30 pm	Lunch
01.30 pm - 02.45 pm	Surface Probe Microscopy (<i>Lalit 3&4</i>)
02.45 pm - 03.00 pm	Tea / Coffee Break
03.00 pm - 04.15 pm	Bio-Imaging (<i>Lalit 3&4</i>)
04.15 pm - 04.30 pm	Interaction with Tutors & concluding Tea

9TH BENGALURU INDIA NANO

Department of Information Technology, Biotechnology and Science & Technology, Government of Karnataka along with Jawaharlal Nehru Center for Advanced Scientific Research (JNCASR) hosted **9th Bengaluru INDIA NANO** with the focal theme '**Nano Horizons**' between **December 7-8, 2017** followed by Tutorials on **December 9, 2017** at The Lalit Ashok, Bengaluru. MM Activ Sci-Tech Communications was the Event Parnter for the event.

Guidance and leadership of **Vision Group on Nanotechnology** led by **Prof. C.N.R. Rao**, FRS, Linus Pauling Research Professor; Honorary President, Jawaharlal Nehru Center for Advanced Scientific Research (JNCASR); Chairman, Karnataka's Vision Group on Nanotechnology and Science & Technology; Chief Mentor, Bengaluru INDIA NANO made the event possible.

Eminent dignitaries at the Inaugural Function comprised of **Prof. C.N.R. Rao**, FRS, Linus Pauling Research Professor; Honorary President, JNCASR; Chairman, Karnataka's Vision Group on Nanotechnology and Science & Technology; **Shri M. R. Seetharam**, Hon'ble Minister for Planning, Statistics and Science & Technology, Government of Karnataka; **Smt. K. Ratnaprabha**, IAS, Chief Secretary, Government of Karnataka; **Prof. Paul S. Weiss**, UC Presidential Chair; Distinguished Professor of Chemistry & Biochemistry; Distinguished Professor of Materials Science & Engineering, California NanoSystems Institute, University of California, Los Angeles, USA; **Shri Gaurav Gupta**, IAS Principal Secretary, Department of Information Technology, Biotechnology and Science & Technology, Government of Karnataka; **Prof. A. K. Sood**, FRS, President, INSA & Professor, Indian Institute of Science, Bangalore; Chairman, Conference Executive Committee, 9th Bengaluru INDIA NANO 2017 and **Dr. H. Honne Gowda**, Managing Director, Karnataka Science & Technology Promotion Society (KSTePS), Government of Karnataka.



KEY HIGHLIGHTS

- The prestigious **Prof. C.N.R. Rao Bangalore INDIA NANO Science 2017 Award** for the year 2017 was presented to **Prof. Ashok K. Ganguli**, Director, Institute of Nano Science and Technology, Mohali, Punjab and Professor of Chemistry, IIT Delhi.
- Release of **9th Bengaluru INDIA NANO 2017 Compendium** at the hands of **Prof. C.N.R. Rao**
- International Conference had 4 Keynotes as well as 32 Global Experts covering topics like Nano-Sensors, Nano in energy Sector, Nano Manufacturing and Scalability and Nano Medicine
- The **Bengaluru INDIA NANO Innovation Award** was conferred upon **Prof. Padma Devarajan**, Institute of Chemical Technology (ICT), Mumbai
- 107 exceptional quality **Posters** were displayed by top institutes like IISc, JNCASR, IITs, NITs, Amrita and International Universities; 10 Best Posters were awarded
- The **Research Industry Collaboration Hub (RICH) Programme** provided an excellent platform to 4 Start-ups to make a pitch to the Nanotech Fraternity
- The **Tradeshow** featured 41 Exhibitors and the DST Nano Mission Pavilion was represented by 15 member organisations
- The **Nano for the Young Programme** witnessed 500+ Post Graduate and Graduate students and Nanotechnology Faculty
- The Event received very good coverage in Print and Electronic Media



PARTICIPATION ANALYSIS

Delegates

614

Speakers & Dignitaries

48

RICH Presenters

4

Exhibitors

41

Poster Authors

107

Visitors

3000+

SPECIAL ACTIVITIES FOR YOUNG STUDENTS

Poster - Walkway of Discovery

Young Scientists and Researchers from National and International institutes and Universities presented new research ideas in the Poster Session – Walkway of Discovery. A total of 107 Posters were on display.



Nano for the Young

This programme was organized to reach out to students and expose them to fascinating world of Nanoscience and Nanotechnology which received overwhelming response with the participation of over **500+** Students from numerous Engineering, Medical and Biotech Colleges from across Karnataka. The speakers consisted of well known personalities as:

Prof. Ajay K. Sood, FRS

President, INSA

Professor, IISc, Bengaluru

Prof. Krishna N. Ganesh

Director, IISER, Tirupati

Prof. P.S. Anil Kumar

Professor, Department of Physics

IISc, Bengaluru

Dr. Ashok K. Ganguli

Director, INST, Punjab



INTERNATIONAL CONFERENCE

9th Bengaluru INDIA NANO the most-sought after Nanoscience & Nanotechnology forum was attended by Industry Leaders, International Trade Delegations, R&D Fraternity, Academia, Policy Makers and Investors offering an excellent platform for knowledge-sharing, networking and business. The Conference Sessions structured under the leadership and guidance of **Prof. Ajay K. Sood**, FRS, President, INSA; Professor, Indian Institute of Science; Chairman, Conference Executive Committee and it's members covered topics of tremendous impact such as Clean Water, Healthcare, Energy and Nano Manufacturing. The Conference was a meaningful experience for all who attended.

The **Keynotes** were addressed by:

- **Prof. Paul S. Weiss**, UC Presidential Chair; Distinguished Professor of Chemistry & Biochemistry; Distinguished Professor of Materials Science & Engineering, California NanoSystems Institute, University of California, Los Angeles, USA
- **Prof. Ashok K. Ganguli**, Director, Institute of Nano Science and Technology, Mohali, Punjab; Professor of Chemistry, Indian Institute of Technology, Delhi
- **Prof. Prashant V. Kamat**, John A. Zahm Professor of Science, Department of Chemistry & Biochemistry and Radiation Laboratory; Concurrent Professor, Department of Chemistry & Biomolecular Engineering, University of Notre Dame, USA
- **Prof. Thirumalai Venky Venkatesan**, Provost Chair Professor & Director, NUSNNI-Nano Core, ECE, Physics and MSE Departments, National University of Singapore, Singapore



NANOTECH EXHIBITION

9th Bengaluru INDIA NANO featured **41 Exhibitors** from across the globe. The special **DST Nano Mission Pavilion** was represented by its 15 member organisations. The Exhibition turned out to be an excellent platform for Nanotech Research Fraternity, Industry, Start-Ups and Corporates to connect for mutual benefit and showcase cutting-edge research work, innovative technologies and products for commercial applications. The Exhibition attracted over 3000+ visitors.

The **Leading Exhibitors** included Institute of Nano Science and Technology, Center for Nano and Material Sciences, Jain University, National Research Development Corporation, Advanced Research Centre for Powder Metallurgy & New Materials (ARCI), Dewinter, Tata Steel Limited, Graphene Nano Innovations Pvt. Ltd., Centre for Nano and Soft Matter Sciences (CeNS), Gitam University, Schrodinger, UHP Technologies Pvt. Ltd., Mittal Enterprises, Global Technologies, Fibre Abrasive Machineries Pvt. Ltd., Infinite Possibilities, Bio Ficient, Indian Oil Corporation Ltd. (IOCL), Icon Analytical Equipment Pvt. Ltd. Oxford Instruments India Pvt. Ltd., KITVEN Funds, Visvesvaraya Technological University, Belgaum.



NANO EXCELLENCE AWARDS FUNCTION

Awards Function was an enthralling experience with Hindustani Classical and Fusion Music by **Dr. Prakash Sontakke** and his team.



The following prestigious Awards were presented to the deserving winners during the event amidst a large gathering:

The much sought-after **Bengaluru INDIA NANO Innovation Award 2017** was conferred upon **Prof. Padma Devarajan**, Institute of Chemical Technology (ICT), Mumbai.



Malhotra Weikfield Foundation Nano Science Fellowship Awards 2017

Mr. Bahri B. R. Malhotra, Co-founder and Chairman, Weikfield Products Corporation LLP, Pune graced the Awards Function. A Cash prize of Rs. 50,000/- and a Certificate were presented to 4 Young Researches as under:

AWARDEES

Mr. Ashmeet Singh

Institute of Nano Science & Technology, Mohali

Ms. Vishakha Kaushik

Thin Film Lab, Indian Institute of Technology Delhi

Mr. Manjeet Chhetri,

International Centre for Materials Science (ICMS), JNCASR

Mr. Satyendra Nath Gupta

IISc, Bangalore



Karnataka DST Nanoscience Fellowships – Awardees

To encourage the Nanoscience Promotion, Government of Karnataka this year introduced this unique award. A Cash prize of Rs. 50,000/- and a Certificate were presented to 2 Young Researches as under:

AWARDEES

Ms. Madhurantakam Sasya,

Research scholar, Centre for Nanotechnology & Advanced Biomaterials (CeNTAB), School of Chemical & Biotechnology (SCBT)

Mr. Sunil Walia

Senior Research Fellow, Large Area Device Laboratory



Best Exhibitor Awards

The Best Exhibitors were recognized and awarded in different categories during the event. For the selection of the Award, an Eminent Jury had been constituted comprising of Members from Industry, Academia, Media and Government.

CATEGORY	AWARDEE
Content & Information	Graphene Nano Innovation
Interactive & Best Managed	UHP Technologies Pvt. Ltd.
Innovative Display	Center for Nano and Soft Matter Sciences (CeNS)
DST NANO MISSION Content & Information	Jawaharlal Nehru Centre For Advanced Scientific Research (JNCASR), Bangalore
	Amrita Institute of Medical Sciences & Research Centre, Kochi



BEST POSTER AWARDS

Poster Session witnessed 107 poster display. The following 10 Best Poster Papers were selected by a Committee headed by **Prof. Anil Kumar**, Dept. of Physics, IISc; awarded with a certificate and Rs. 20,000/- prize each by KSTePs. A Poster Document consisting of all the Poster Abstracts was also published for the benefit of all the Delegates & Visitors.

Awardee & Institute	Title of Paper
Sreedhara M B Jawaharlal Nehru Centre for Advanced Scientific Research	Atomic Layer Deposition of Crystalline Epitaxial MoS ₂ Nanowall Networks Exhibiting Excellent Performance in Thin-film Rechargeable Na-ion Batteries
Deepa Bhagat ICAR-National Bureau of Agriculturally Insect Resources	Science for New India Unique approach towards efficient agricultural Pest management for farming
Aviji Baidya Indian Institute of Technology Madras	Organic Solvent-Free Fabrication of Durable and Multifunctional Superhydrophobic Paper from Waterborne Fluorinated Cellulose Nanofiber Building Blocks
Nitesh Priyadarshil National Agri Food Biotechnology Institute	Glycoconjugates capped multifunctional gold nanorod based nanobiosensor for detection of multiple food borne bacteria
Abhishek Banerjee IISc Bangalore	Half integer quantum Hall effect of two dimensional surface states in a topological insulator n-p-n junction
Vaisakh V M Centre for Nano and Soft Matter Sciences	Enhanced photoluminescence in anisotropic magneto-gel
Krishna Kumar Yadav Institute of Nano Science and Technology, Mohali	Extraction of valuable nanostructured compounds from hazards industrial effluent
P.M. Pratheeksha International Advanced Research Centre for Powder Metallurgy and New Materials	Large Scale Synthesis of High Performance Zero Strain Lithium Titanate for High Energy Density Li-ion Battery Application
Jeena K Amrita Institute of Medical Sciences	Brain-ECM mimicking 3D scaffold and patient derived xenograft (PDX) model for nanomedicine screening against glioblastoma multiforme
Divya Prasad Jain University	Maghemite/MWCNT Hybrid Nano Structure Highly Efficient Catalyst for Hydrogen Generation from Sodium Borohydride



This contest was organised to encourage and enthuse young students to think about innovative solutions based on nanotechnology for any problem of social relevance. It is about ideas that can be pursued for feasibility study within a short time. Overall 27 entries were received out of which 9 finalists contested with each other in the main competition. An Eminent Jury identified **Top 2 ideas** and they were given cash rewards of Rs. 50,000 each.

Winners:

Saugandha Das, Darsheen Kotak, Amit Lokhande
Institute of Chemical Technology, Mumbai

Sudeshna Mondal
Indian Institute of Technology, Mumbai



RESEARCH INDUSTRY COLLABORATION HUB (RICH) PRESENTATIONS

Research Industry Collaboration Hub (RICH) presentations designed for the assistance of emerging entrepreneurs with innovative business concepts witnessed numerous entries. Presenters were provided a pedestal to share their thoughts and ideas to investors, heads of large R&D labs and industry captains.

The RICH Session was chaired by **Prof. G.U. Kulkarni**, Director, Centre for Nano and Soft Matter Sciences (CeNS) **Presenters** included:

Ms. J. Manjula | Big Tec Labs

Dr. Sarit S. Agasti | Jawaharlal Nehru Centre for Advanced Scientific Research

Mr. Rajnish Sharma | Graphene Nano Innovations Pvt. Ltd.

Dr. Kanishka Biswas | Jawaharlal Nehru Centre for Advanced Scientific Research



VALEDICTORY FUNCTION, NANOSPARK & POSTER AWARDS

9th Bengaluru INDIA NANO concluded with Valedictory Function followed by NanoSparX and Poster Awards presentations. The dignitaries included **Shri Gaurav Gupta**, IAS Principal Secretary, Department of Information Technology, Biotechnology and Science & Technology, Government of Karnataka; **Prof. A. K. Sood**, FRS, President, INSA & Professor, Indian Institute of Science, Bangalore; **Prof. Satyajit Mayor**, Director, National Centre for Biological Sciences; **Dr. H. Honne Gowda**, Managing Director, Karnataka Science & Technology Promotion Society and **Mr. Jagdish Patankar**, Executive Chairman, MM Activ Sci-Tech Communications.



POST CONFERENCE TUTORIALS

9th Bengaluru INDIA NANO also featured **Post Conference Tutorial** - a series of tutorials by Leaders in Nanotechnology to cover various facets and latest trends in the sector.

Tutorial Topics:

- Nano Fabrication Technologies- Part I & II
- Surface Probe Microscopy
- Bio-Imaging

Tutors:

- **Prof. P.S. Anil Kumar**, Professor, Department of Physics, IISc, Bengaluru
- **Prof. G.U. Kulkarni**, Director, Centre for Nano and Soft Matter Sciences (CeNS)
- **Prof. B.R. Mehta**, Schlumberger Chair Professor, Department of Physics, IIT, Delhi
- **Dr. Anusha Ashokan**, Adjunct Faculty, Amrita Centre for Nanosciences and Molecular Medicine, Amrita Institute of Medical Sciences and Research Centre, Cochin, Kerala



TESTIMONIALS- CONFERENCE

"It was a delightful experience at the Bangalore Nano event. It was also a real honour to be a part of the inaugural ceremony. This platform gave me a unique opportunity to interact with so many people associated with nanotechnology."

Prof. Paul S. Weiss, UC Presidential Chair; Distinguished Professor of Chemistry & Biochemistry and Materials Science & Engineering, California, NanoSystems Institute, University of California, Los Angeles, USA

"This is a huge conference especially for the young minds. I saw a lot of interaction happening between students and the professional experts here. It feels great to see that students are so enthusiastic about learning from this field of nanotechnology."

Prof. Rohit Srivastava, Dept. of Biosciences & Bioengineering, IIT-Bombay

"I have been attending the nano event every year. This year was very special because I got to see great enthusiasm coming from so many students. It feels good."

Prof. Krishna N Ganesh, Director, IISER, Tirupati

"I have been coming to the Bangalore Nano event since beginning. It began as a very small operation and has now completely transformed. Through this event, we come to know of the new things happening in the area of nanotechnology. This time a lot of interesting panel discussions were conducted."- **Prof. Satyajit Mayor, Director, National Centre for Biological Sciences**

"I had a great time at this event, attending interesting panel discussions. So much work is being done using nanotechnology. Collaborative work between India and Japan can surely bring wonderful results in the area of nano science and medicine."-

Prof. Vasudevan Biju, Hokkaido University, Japan

"I have been associated with this event since its inception. It has been my pleasure and privilege to be a part of it. It has become a brand event now which is recognized across the world."- **Prof. G D Yadav, Vice Chancellor, ICT, Mumbai**

"This is the first time for me at the Bangalore Nano event. It is a premier event of nanotechnology in this country. It is a great place to meet people associated with this field. It was an exciting experience."- **Dr. Manoj Varma, Associate Professor, CeNSE, IISc**

"It was a great experience being here at the Bangalore Nano event, to be able to share some of the work I have been doing at the Delhi Technological University." -

Prof Bansi Malhotra, Head, Dept of Biotech, Delhi Technological University

TESTIMONIALS- EXHIBITION

“The Exhibition at the Nano event has made so much progress. It gives us a chance to discuss some real science and technology through such exhibitions. India should learn to stand out in competitions, else it becomes very tough in the field of research”.

Prof. C.N.R. Rao, FRS, Linus Pauling Research Professor; Honorary President, JNCASR

“It is our first time at the Nano event. It has been an enthralling experience. The show was a great with a huge number of attendees. We will surely stay associated with this event next year too.” – **Mr. Mriganshu Guha, Tata Steel**

“We had a very good experience at the Nano event. It is very well organized. It is the perfect platform for us to promote our products at a good scale. We look forward to the next edition.”- **Amit, Icon Analytical Equipment Pvt. Ltd.**

“We have been participating in the India Nano event for the past 3-4 years. We have seen a lot of progress taking place especially with respect to the customers. It has been a very encouraging experience this year as we got to promote our products.”

Mr. Manjunath, UHP Technologies

“The Nano event is a great platform to promote the activities taking place in the field of nanotechnology in our country. We are looking forward to the next edition which would hopefully be a global one.”- **Mr. Rajnish Sharma, Graphene Nano Innovations Pvt Ltd.**

“I have been attending this event for several years. Under the visionary guidance of Prof. CNR Rao, the event is developing great prominence. It is being recognized as the ideal attempt to put India on the world map in the area of nanotechnology. The event is also doing a wonderful job in bringing academia, industry, startups and venture capitals together. I wish the event a grand success.”- **Dr. Ashok K Ganguli, INST, Mohali**

“It is a wonderful forum and we are very happy to be associated with it. With support from Prof CNR Rao, the upcoming editions would definitely reach greater heights. We are looking forward to further development in our country in the area of nanotechnology.” -

Ms. Mary Joseph, Indian Oil

“The Nano event is a very informational platform where we get know of the latest developments. The students benefit a lot by getting good exposure. We also get to do a lot of networking at such events. It also helps in promoting industry and academia partnerships.”- **Prof. Dinesh Rangappa, Visvesvaraya Technological University**

MEDIA COVERAGE

సాక్షి సాంకేతికతతో స్థూల ప్రయోజనం





గోదాకు రంగస్థల వెలికం నేపథ్యం

1955 లోని రంగస్థల కథానాయిక పాత్రకు ప్రత్యేకంగా పాత్రను తీర్చాడు బి.వి.ఎస్. రంగస్థలం యొక్క యాదాద్రి వద్ద ఉన్న గోదాకు రంగస్థలం నేపథ్యం. ఇక్కడ నాటకం ప్రదర్శించబడింది. ఇక్కడ నాటకం ప్రదర్శించబడింది.



నర్మ వ్యవస్థలో కృత్రిమ నేపథ్యం

నర్మ వ్యవస్థలో కృత్రిమ నేపథ్యం. ఇక్కడ నాటకం ప్రదర్శించబడింది. ఇక్కడ నాటకం ప్రదర్శించబడింది.

State to have 25 science centres

DC CORRESPONDENT
BENGALURU, DEC 7

In a bid to boost the scientific temper amongst the students and recraft the image of the city, that he referred to as the 'Knowledge of India', Mr M.R. Seetharam, minister for Planning, Statistics, Science and Technology announced at the 9th edition of Bengaluru India Nano that the state government has planned to establish 25 Science Centres along with 3D planetariums across the state.



Noted scientist Prof. C.N.R. Rao, Chief Secretary, K. Ratnaprabha, Minister M.R. Seetharam and others during the inauguration of Bengaluru India Nano 2017 in Bengaluru on Thursady —DC

"We are establishing the first 3D planetarium with state-of-the-art projection systems in Mangaluru at an estimated cost of Rs. 35.69 crores. This planetarium will be open to the public by January 2018. Jawaharal Nehru planetarium has been upgraded with a modern projection system at a cost of Rs. 12.00

Citing the example of Israel where scientists made a breakthrough in nano science by developing 'nano nose' which can be used to diagnose breast cancer, Rhee and Rao awarded Professor C.N.R Rao hailed the contribution of nano-technology in the field of medicine. "Any new thing grows from a seed to a tree then becomes a continent," NanoScience is like that," Prof C.N.R Rao said.

The two-day Conference where Prof. Ashok K. Ganguli, Institute of Technology and Management, Mohali Punjab was accorded with the Prof. C.N.R. Rao award, will address the latest trends in Nanotechnology focusing

Nanotech can solve med problems: Experts

DC CORRESPONDENT
BENGALURU, DEC. 8

"The challenges in medicine are mainly detection and diagnosis, biomaterials prosthetics and drugs and drug delivery systems that are now being addressed by nano science," said Prof. Krishna N. Ganesh of IISER, Tirupati on the second day of the 9th Bengaluru India Nanotechnology Summit, which concluded on Friday.

"Nanotechnology is helping in detection of cancer, and nanoparticle drugs are now available to treat breast and ovarian cancers as well," he said.

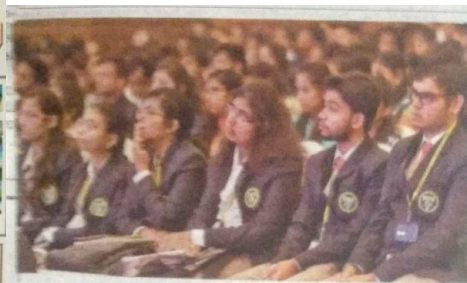
On the possibility of converting toxic gases into non-toxic gases using nanotechnology, Prof. Ashok Ganguly of the Mohali Institute of NanoScience and Technology said, "It is possible using nanotechnology-driven filters. This

is just a fraction of the innovation that nanotechnology holds. This field of study can change the world."

At the Nano Sparx event, where students presented innovative ideas, the two top were awarded a cash prize of Rs 50,000 each. The winning ideas were presented by Sudeshna Mondal and three others from the Institute of Chemical Technology, Mumbai.

Students from various top colleges in the city, including Christ, Mount Carmel and Kristu Jayanti, attended sessions on physics, chemistry and biology with a special emphasis on medicine.

Prof. Anil Kumar of the Department of Physics IISc too was part of the sessions. 'Nano for the Young' was chaired by Prof. Ajay K. Sood, president Indian National Science Academy.



The much-awaited 'Nano for the Young' session was held on the second day of Bangalore India Nano 2017 | EXPRESS

Nano tech to treat cancer at ₹10,000 in the offing

EXPRESS NEWS SERVICE
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ANNUALLY, about one million cases of cancer is detected in India, and less than 10 per cent of the population can afford treatment. Dr Rohit Srivastava, from IIT Mumbai, is working on a technique based on gold nano-structures that would offer treatment at just ₹10,000.

In order to continue research on this promising procedure, the scientist is now resorting to crowdfunding and has started a page for this.

Speaking at a session on 'Nano Medicine' at Bengaluru India Nano-2017, he said the technology, when fully developed and test-

ed, will help in healing cancer without surgery or chemotherapy. It is among the new techniques to cure cancer being developed and is expected to drastically reduce the treatment cost and cut-off hospital stay. "Many of the patients affected by cancer have to spend in lakhs for

Scientist for rese at nano

TIMES NEWS NETWORK

Bangaluru: Bringing nanotechnology-related research into the mainstream, hundreds of delegates, academics, scientists and institutions participated at the launch of Bangalore India Nano, Asia's largest event which focuses on development of nanoscience and nanotechnology on Thursday.

Flagged off by eminent scientist Prof CNR Rao, chairman of Karnataka's vision group on nanotechnology, the two-day event has been jointly organized by the department of information technology, biotechnology and science & technology and Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR) to advance the case for nanoscience.



ತಂತ್ರಜ್ಞಾನ ಕೇತರದಲ್ಲ ರಾಜ್ಯ ಮಾದರಿ

ಬೆಂಗಳೂರು, 02-7- ಕರ್ನಾಟಕ ರಾಜ್ಯವು ಕ್ಯಾನ್ಸರ್ ಚಿಕಿತ್ಸೆಗಾಗಿರುವ ವ್ಯಾಸಂಗ ತಂತ್ರಜ್ಞಾನ ಕಾರಣವನ್ನು ಜನವರಿ ತಿಂಗಳಿಂದ ದಲ್ಲಿ ವಿಜ್ಞಾನ ಮತ್ತು ತಂತ್ರಜ್ಞಾನ ಕ್ಷೇತ್ರದಲ್ಲಿ ಸಾಕಷ್ಟು ಸಹಕಾರಿಯಾಗಿದ್ದು, ಆದೇಷ್ಟೂ ಕ್ಯಾನ್ಸರ್ ತೆರೆಯಲಾಗುವುದು ಎಂದು ಹೇಳಿದರು.



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Bengaluru India Nano conference takes off

EXPRESS NEWS SERVICE
@Bengaluru

THE 9th edition of Best India Nano, the country's premier nanosciences conference, was inaugurated on Tuesday in the absence of the Chief Minister, who had confirmed he would inaugurate the event. The three-day event, held at Hotel Lalit Ashoka, featured keynote talks by eminent scientists like Prof. Weiss, Distinguished Professor of Material Science at the University of Illinois.

California, and Prof Ashok K Ganguli of the Institute of Nano Science and Technology Mohali, who was awarded the C N R Rao Bengalaru India Nano Science-2017 award, as well as several competitions and tutorials.

Speaking at the inaugural, Prof Rao said the field of nanotechnology, particularly in the life sciences sector, is progressing at a speed where it is becoming difficult to keep up with the subject. "There are two premier institutes in the country: one in Mohali, and the other here in

Benarua. We hope that they will contribute to various facets of nanoscience," he said. Prof Rao, in his trademark style, also added that the Indian government should have had a more relaxed morning had he chosen to attend the conference instead of skipping it. "It is important to give attention to science and technology," he said.

Chief Secretary K Ratna Prabha, who attended on the behalf of the CM, attempted to defuse the situation. "Please accept the apologies of the CM. He has a very busy schedule. But he is on his way back to his office," he said. He was in Karwar on the other side of the state and could not attend, he said, assuring the gathering that the absence of the CM was not symbolic in any way. "We will continue to support science and technology," he said, adding that he would position as leaders in the field, she said.


Day one also saw Prof Ganguli being given the CM R R Prasad's award for the best young scientists by the Government of India. Nano Science

విష్యుత్‌లో నానోదే కీలక పాత్ర

- భారతరత్న డాక్టర్ సిఎన్ఆర్ రావు



అంధప్రభౌటి, బెంగళూరు
 తే సాంకేతిక పరిజ్ఞానంలో నానే కీల
 పహించనుందని భారతరత్న ప్రాచీ
 ఎన్.ఆర్. రావ్ అభిప్రాయ వ్యక్తారు.
 రం నగరంలో 9వ బెంగళూరు-ఇ
 నానే నదస్సును లాంచమంగా ఆరం
 బం. కార్మకమంలో సైన్స్ అండ్ టెక్నో
 లాజీ మంట్రి ఎం.ఆర్.సితారామ్,
 ప్రధాన కార్యదర్శి రత్నప్రభ,
 అధ్యక్షులు ప్రొఫెసర్ పౌల్ ఎస్.వేన్
 ని విజ్ఞాన సంస్థ చైర్మన్ ప్రొఫెసర్
 కె.నూద్ తదితరులు పాల్గొన్నారు.
 దర్బంగా ఇండియా నానే పురస్కా
 థాపైసర్ అశోక్ కుమార్ గంగూరికి
 సీతారామ్, శాస్త్రప్రేత సిఎస్ఆర్
 ప్రధానం చేశారు. నదస్సునుద్దేశించి
 రావ్ ముట్టాడుతూ నానే టెక్నాల
 జీ ప్రాంతాల్లో ఇమిడి ఉందన్నారు.
 3 ప్రాంతాల్లో నానే టెక్నాలజీ
 ఆరంభించాలని కేంద్రానికి
 చేశామన్నారు. కేంద్ర ప్రభుత్వం
 చంద్ మండల్లో నానే కేంద్రాల
 ను సమీకరించినది ప్రశంసించారు.
 డిమా, కర్ణాటక ఉమ్మడి ఇక్కడి అవ
 మనేపేటి దృష్టిలో శాసనకాని నానే
 జీ అభివృద్ధికి దీమాండ్ ఫీశాసన్నారు.
 జీ బెంగళూరు కేంద్రంలో నానే టెక్నాల



నందిందివి పరిశోధనలు జరుగుతు
యన్నారు. బెంగళూరుకు ఇప్పటికీ బడి
గా పేరుందని భవిష్యత్లో నానే బిక్టర్
నీటిగా ప్రపంచానికి గుర్తింపు తీసుకురా
దన్నారు. సాంకేతిక పరిజ్ఞానానికి కేంద్ర,
ప్రభుత్వాలు ఇస్తున్న ప్రోత్సాహం నంతో
గా ఉందన్నారు. మంత్రి ఎం.ఆర్.సీ
గా మాట్లాడుతూ నానే బిక్టర్లుజీ
ంలో విస్తరణకు అభివృద్ధి సాధిస్తోం
పెట్టుబడులు పెట్టాలని పిలుపుని
రు. రాష్ట్ర ప్రభుత్వం అన్ని ప్రాంతా నహ
స్తోందన్నారు. రాష్ట్రంలో 15 ప్రాంతాల్లో
స్తో కేంద్రాలు ఏర్పాటు చేయాలని నిర్ణ
ంచామన్నారు. బెంగళూరు ప్లానేటరీ
ంను రూ.12 కోట్లలో అభివృద్ధి చేశామ
రు. వివిధ డేశాలకు చెందిన ప్రతినిధులు
గొప్పములయ్యారు.

MODE OF ADVERTISEMENTS

Print Media

An extensive event promotion campaign was carried out through various media vehicles across the country. The campaign kick-started with State Focused advts. followed by All India advts. Leading newspapers used across the campaigns were:

DAY & DATE	PUBLICATION	SQ.CM SIZE
Thu, Nov 23, 2017	Times of India- Karnataka	400
Fri, Nov 24, 2017	Hindu Business Line- All India	400
Mon, Nov 27, 2017	Times of India- Karnataka	216
Tue, Nov 28, 2017	Economic Times- All India	400
Wed, Nov 29, 2017	The Hindu- Karnataka	240
Thu, Nov 30, 2017	Economic Times- South	240
Fri, Dec 1, 2017	Times of India- Karnataka	240
Mon, Dec 4, 2017	Times of India- Karnataka	240
Tue, Dec 5, 2017	Deccan Herarld- Karnataka	240
Wed, Dec 6, 2017	The Hindu- Karnataka	240



Trade Media

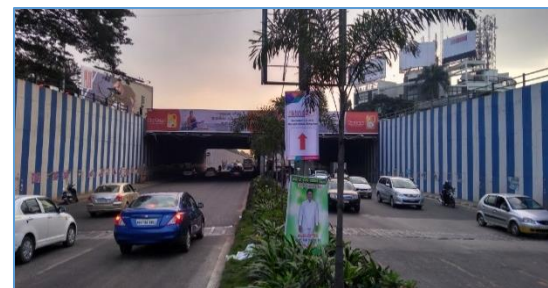
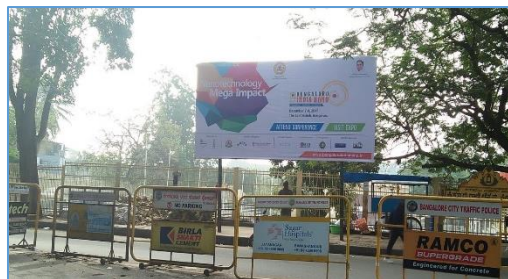
To reach out to the various stakeholders from Nano Science & Nanotechnology fraternity, few advertisements and web banners were planned with some of the trade publications including:

- Current Science
- BioSpectrum India
- Journals Pub
- Nano Digest
- NuFFooDS Spectrum
- STM Journals
- Trade4India

Outdoor

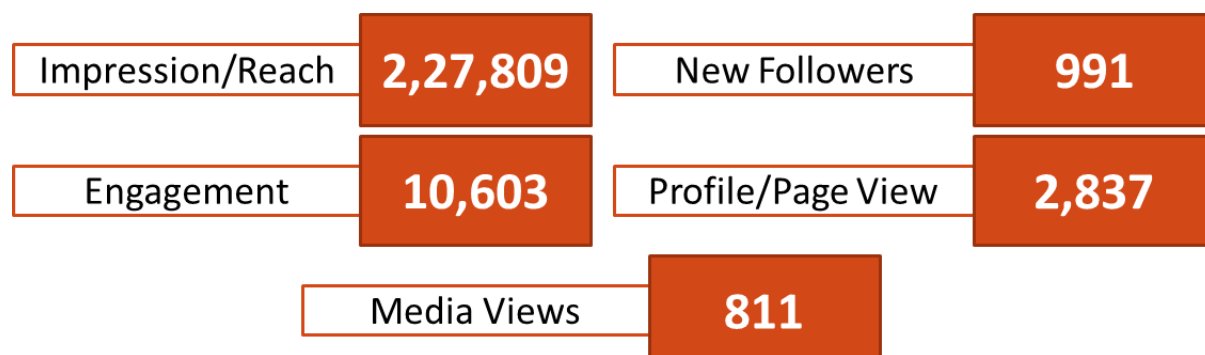
Massive Outdoor campaign was done to create awareness about event.

- 10 Hoardings were displayed at strategic location a few days before the event
- Road Signages placed around The Lalit Ashok to help and direct participants to reach venue easily



Social Media

The event was well-promoted with social media platforms like Facebook, Twitter, LinkedIn through daily informative posts and updates about event. Google Adwords Campaign were also activated to boost the event popularity.



This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

ACKNOWLEDGMENTS

Event Lead Support



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