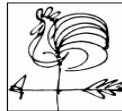




REPORT ON
INTEL SCIENCE TALENT DISCOVERY FAIR 2004
NATIONAL FAIR

DIREM



Building Relationships
Directing Growth

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Introduction

Intel Science Talent Discovery Fair (Intel STDF) 2004 is in sixth year in India. Two combined National level fairs were held at International Institute of Information Technology (IIIT), Hyderabad this year. A total of 150 projects (in individual and team category) participated at Intel STDF 2004 through Direct Entry and Affiliated Fairs route. Enclosed herewith is a comprehensive report on the National Fairs.



Agenda

Intel STDF 2004

Date	Timing	Program
16-Dec-03	0800-1730	Registration & Setting up of projects
Tuesday	0900-1000	Breakfast for participants and accompanying adults
	1300-1400	Lunch for all
	1600-1615	Tea for all - to be served
	1800-2000	Presentation on IIIT institute
	2000-2100	Dinner for all
17-Dec-03	0730-0830	Breakfast for participants and accompanying adults
Wednesday	0830-0930	From Hostel to Venue/Final check at the stalls by participants
	0930-1000	Inauguration of Intel STDF 2004
	1000	Assemble in front of the IIIT main bldg
	1005-1230	Visit to Dr Reddy's lab for students only
	1015-1230	Pre-judging session
	1100-1230	IIIT visit to the labs for Guides
	1230-1315	Lunch for all
	1330-1730	Students Interviews with judges
	1400-1530	Travel reimbursement to Guides
	1600-1615	Tea for all - to be served
	1800-2000	Entertainment session for all
	2000-2100	Dinner for all
18-Dec-03	0800-0900	Breakfast for participants and accompanying adults
Thursday	1000-1300	Students Interviews with judges
	1030-1130	Workshop session for guides
	1300-1400	Lunch for all
	1400-1800	Open to visitors/ press
	1600-1615	Tea for all - to be served
	1900-2000	Workshop session for students
	2000-2100	Dinner for all
19-Dec-03	0800-0900	Breakfast for participants and accompanying adults
	930	Assemble in front of the IIIT main bldg
Friday	0930-1030	Departure and assembling at the Valediction venue
	1100-1230	Valediction ceremony
	1300-1430	Lunch for at IIIT mess
	1430 -1730	Project Improvement Session for Winners
	1430-1700	Distribution of Participation Certificates and reimbursement of travel fare to students at Registration Desk followed by dismantling of projects
	1730	Departure all

Activity Venue Details

Inauguration ceremony:	IIIT Main Building Reception Hall
Exhibition of Stalls:	IIIT Main Building
Judging:	Room no 210 at the IIIT Main building
Workshops for guides:	Room no 119, IIIT Main Building
Star gazing show:	Football ground at IIIT campus
Valediction:	DST Seminar Hall, University of Hyderabad
Breakfast/Lunch/Snacks:	IIIT Mess
For judges/guests:	Guest House Dining Hall
Snacks for students:	Gallery outside the Class rooms

Pre Event Activities

Pulling in traffic to the event – Invite strategy

The invitations were sent to over 1800 schools in Hyderabad as well as to:

- Affiliated fair officials
- Summer internship institutes
- VIPs
- Judges and the scientific community

All the invites were sent out in by November third week. School invites were sent in the first week of December; however, canvassing took its course in the mid November itself. Hence the invite card was used as a second reminder.



A follow up exercise was also done with the School students / teachers by tele calling. Hyderabad MT Club too handed over the invites to the schools in the town.

In order to ensure that our projects are viewed by a maximum number of people and our participants in the Fair, get an opportunity to interact with the maximum number of visitors we had also released two Press ads in the local newspaper of Hyderabad – Deccan Chronicle and Eenadu.

Judges

Understanding that the judging process is vital to the Intel STDF and its successful conduct, this year 29 judges were present in the Judges' Panel. The Judging committee comprised of nine core committee judges from Mumbai and Delhi and 20 local Judges from renowned institutes of Hyderabad. In addition to the normal criterion of subject experience an important consideration was given to qualities like multi disciplinary expertise (so that all the judges could give valuable suggestions to all the projects), positive attitude towards the students and their projects etc. A briefing session was held with the Hyderabad Judges one day prior to the National Fair (i.e. on Day 0) in order to acquaint them with the Intel STDF Judging criteria. Prof. J B Mistry conducted the Judges briefing All outstation judges were provided accommodation at Hotel Landmark.

Keeping with the norms and also to provide for quality interaction at the time of the judging, relevant subject category synopses were sent to the respective judges 10 days prior to the National Fair.

The Panel of Judges

Subject Category	Name	Institute	City
Bio Chemistry	Dr M N Gupta	IIIT Delhi	Delhi
	Dr.Pratap Rudra	Dept of Bio Chemistry	Hyderabad
	Dr.Sesikiran	National Institute of Nutrition	Hyderabad
Botany	Dr Bhatnagar	Delhi University	Delhi
	Dr.Rajakumari	Centre For Cellular And Molecular Biology	Hyderabad
	Dr.Vijaya Gopal	Centre For Cellular And Molecular Biology	Hyderabad
Chemistry	Dr Prabhu	Wilson College	Mumbai
	Dr.M.V.Jagannadham	Centre For Cellular And Molecular Biology	Hyderabad
	Dr.I.Balakishan Rao	Indian Institute of Chemical Technology	Hyderabad
Computer Science	Dr.Vishnu Vardhan Rao	National Institute of Nutrition	Hyderabad
	Dr.Suguna	Centre For Cellular And Molecular Biology	Hyderabad
Earth & Space Sciences	Mrs. Nandini Nagarajan	National Geophysical Research Institute.	Hyderabad
	Dr. Hrishikesh Samant	St Xaviers College	Mumbai
Engineering	Dr BSP Rao	BARC (Retd)	Mumbai
	Dr.B.Srinivas Reddy	Osmania University	Hyderabad
	Prof.Prakash Rao	Osmania University	Hyderabad
	Mr. M Prabhakar	Osmania University	Hyderabad
	Dr.T.G.Thomas	Osmania University	Hyderabad
Environment Science	Dr. CN Shenoy	Cancer Research Institute (Retd)	Mumbai
	Dr. T N Mahadevan	IIT Bombay	Mumbai
	Dr.Praveen Raj Saxena	Osmania University	Hyderabad
	Dr.V.Sudarshan	Osmania University	Hyderabad
	Dr.P.Mankya Reddy	Osmania University	Hyderabad
Math	Dr. PK Joshi	Tata Institute of Fundamental Research	Mumbai
	Dr.G.S.R.Murthy	Indian Statistical Institute	Hyderabad
	Dr.N.Sundarajan	Osmania University	Hyderabad
Physics	Dr. Mistry	St Xaviers College	Mumbai
	Dr.Sundaram	Centre For Cellular And Molecular Biology	Hyderabad
	Dr.Krishnan Ravi Kumar	Indian Institute of Chemical Technology	Hyderabad

Participation Details

Following is a snap shot of the project participation & visitors

- Total Projects participated - 150 projects
 - No. of team projects - 76
 - No. of individual projects - 74
 - Affiliated fair projects - 55
 - Direct Entry projects - 95
- Total no of participants - 226
 - Nos. of girls participants - 66
 - Nos. of boys participants - 160

Projects

<i>Category</i>	<i>No of Projects</i>
Bio-Chemistry	18
Botany	12
Chemistry	10
Computer Science	12
Earth and Space Science	3
Engineering	31
Environmental Science	37
Mathematics	8
Physics	19
Grand Total	150

Second half of Day 2 was open for the visitors at large

- No. of schools - 53
- No. of Principals - 17
- No. of teachers - 150
- No. of students - 1780

Branding



Immense importance was given to the branding of Intel STDF. The objective was to drown the venue in the Intel STDF look & feel. This year the branding was given a new look i.e. the new green of Intel STDF. A huge hoarding of 8ft x 14 ft was put right at the entrance of the IIIT main entrance welcoming one and all to see the bright science ideas of the new generation. Gate arch were erected to give the event a grand look. The IIIT campus was adorned with way banners and pole banners till the main building where the display was held. The bright and colourful buntings added to the beauty of the

venue. Other key branding elements were subject banners, project code stickers for each stall, badges, caps, t-shirts, pens and plastic folders for each participant.

Like always the Intel STDF and Intel ISEF gallery was also set up at the National Fair. This year the Gallery too was given a new and contemporary look.



Day-wise Activities

Day 0 –December 16, 2003

1. Registration of participants
2. Set up of Projects

Participants reported at the venue a day before the Fair to set up their projects display and get settled. Accommodation arrangement was made at the IIIT hostels – separately for girls and boys. Since it was relatively cold season proper arrangement was made to provide blankets and sheets to all the participants and their guides. A registration kit was handed over to each participant and their guides. The kit included the following:

- Welcome letter
- Agenda from December 16 to 19
- Judging schedule
- Food coupons
- Participation badge

Day 1 –December 17, 2003

1. Inauguration
2. Students visit to Dr Reddy's Lab
3. Guides workshop with Prof Abhijeet Mitra of IIIT.
4. Pre-judging session
5. First round of Judging
6. Visit to Goloconda Fort

Inauguration

The Fair was inaugurated on December 17th at the Reception Hall of IIIT main building where the project display was held. The inauguration ceremony began with the Saraswati Vandana followed by lighting of the lamp by the Director of IIIT – Prof Sanghal along with Ms Anjali Nichai from Intel India and representatives from Judges, Guides and Students.



Prof Sanghal welcomed every one to IIIT and shared his words of encouragement and instilled confidence amongst the participants. Ms Anjali Nichani declared the Fair open and wished luck to one and all. The inauguration Ceremony was ended with the National Anthem

Post Inauguration

Soon after the inauguration students were taken for visit to Dr Reddy's Lab, Guides were taken for a workshop at IIIT with Prof Abhijeet Mitra – Associate Professor at IIIT and Judges proceeded with the Pre-judging session.

Students visit to Dr Reddy's lab was well appreciated by the students. Infact, the students found the visit so interesting that they found the duration of the visit to be short. Students were taken through a presentation on Research and a physical visit to the Research labs at Dr Reddy's laboratory.

Interviews with the judges

The judging process comprised of a pre-judging session where the judges examined the research material and charts displayed by the participants without the participants being present near their displays. This session helped the judges to study the research material and to prepare for the interviews with the participants.

The Interview Session followed the Pre-judging Session where the judges interviewed the participants on their projects. There were minimum 2 judges conducting 10-minute interviews for each project. Each project was evaluated by the judges based on the following criteria:

Criteria	Individual Projects	Team Projects
Creativity & Originality	30 points	25 points
Scientific Methodology	15 points	13 points
Application and Engineering Goals	15 points	13 points
Thoroughness	10 points	08 points
Documentation	10 points	08 points
Skill	10 points	08 points
Clarity	10 points	10 points
Team Work	-	15 points
Total Possible Score	100 points	100 points

Snacks

Arrangement for snacks was made for all. A buffet system was arranged for Judges. Students were offered snacks outside their rooms and guides had their snacks at the mess.

Visit to Goloconda Fort

Visit to Goloconda Fort was organized for all the participants. Goloconda Fort is considered to be one of the most renowned historical place in Hyderabad. 7 big buses were booked to transport students and guides to Goloconda Fort. The 'Sound and Light Show' at Goloconda Fort has always been an attraction for all tourists; therefore tickets were organized for the same. The students and guides enjoyed the same and gave a very positive feedback.

Post visit to Goloconda Fort everybody had dinner at the IIIT mess and then dispersed to their hostel rooms.

Day 2 – December 18, 2003

- Interviews with Judges
- Visitors
- Sky show

Interviews with the judges

This session began at 10.30 am after an initial discussion amongst the judges over the top 5 projects in each category as well as top 20 projects overall. The data for the same was collated based on the Z-score and a presentation was made by Ms Anjali Nichani. While the judges were interviewing the short-listed project participants visit to the IIIT labs were organized for the guides. However only 50% of the guides showed interest and went through the labs at IIIT.

This was followed by lunch for the participants and guides at the mess.

Visitors

From 2.00 pm onwards the venue was open to visitors. Students from various schools had lined up outside the even before 2.00pm. We had over 1800 visitors at the venue all waiting to see what our young scientists had to display. We also had people coming in from the media Eenadu, The Hindu, Times of India etc who went around talking to the participants.



Judges discussion for selection of the best projects



While the visiting session was happening at the display area, Judges were going through a tough time deciding the National Winners for the Intel STDF 2004. Re-visits to the project stalls and discussions went on till 5 pm when finally the National Winners and the 3 Best of subject Category Winners were chosen as winners. However, Earth & Space Sciences category did not have any good project to be awarded as the subject category winner.

Sky Show

The day was not yet over. An exciting Sky Show / Star Gazing show was organized for the young scientists in the evening of Dec 17th at IIIT football ground. Association of Hyderabad Amateur Astronomers (AHAA) were invited to do an educative session for the participants. Two huge telescopes in the winter night created a lot of excitement amongst the students. The show which began at 9.00 pm in the night ended around 11.30pm.

DAY 3 - December 19, 2003

- Valediction ceremony
- Project improvement session
- Departure



Valediction Ceremony

The D-day had arrived and all the participants were waiting for the results with bated breath. As scheduled the valediction ceremony began at 11.00 am sharp at the DST Seminar Hall at University of Hyderabad. The students and guides were transported through buses to the venue.

The Ceremony started with Ms. Anjali Nichani, K-12 Education Program Manager, Intel – India highlighting the initiatives taken by Intel this year and sharing the plans for Intel STDF 2005 with the audience. The Chief Guest - Prof Javed Iqbal, a Distinguished Scientist from Dr Reddy's Laboratories gave a very motivating speech to the participants raising their morale and spirit. Mr Lokesh Mehra –Education Program Manager –Intel, India was also present at the Valediction ceremony. Prof J B Mistry, Professor of Physics at St Xavier's College Mumbai then explained the evaluation criteria on behalf of the judges and shared the experiences while going through the Judging method.



The Result



National Winners at Intel STDF 2004

Individual category				
Subject category	Title	Student name	School name	City
Physics	Wave modulation and its applications	Amruth B R	Sadvidya Composite Pre University College	Mysore
Computer Science	The Expert Pest Management System For Diagnosing Pest Damage Of Rice Cotton And Sugarcane	Kanishka Raajkumar	Shree Baldevdas Kikani Vidyamandir Matric Hr Sec School	Coimbatore
Environmental Science	Eco - Friendly Products, Application Of Dates - Palm As Bio - Manure, Cosmetics And Health Drinks	Harshini Ramachandran	Shri Bejairaj Sajjanraj Mootha Girls Sr Sec School	Chennai
Mathematics	An Interesting Property Of Right Angle Triangle	Sameer Yeleswarapu	St Francis De Sales High School	Hyderabad

Team category					
Subject category	Title	Student name	Student name	School name	
Environmental Science	Paperwood - Paper from wood? No, wood from Paper.	Shriram Jayraman	Srividya Swaminathan	Modern English School	Mumbai
Bio Chemistry	To Study the effect of bio seed dressing on the growth, yield and quality of crop	Zeshan Sayed	Rishi Mahavir Patil	Shreerang Vidyalaya	Thane, Maharashtra

Subject Category Winners

Subject category	Title	Student name	Student name	School name	Place
Bio Chemistry					
	Studies On Cancer Chemopreventing Potentials In Ajowan (Carum Copticum) Seeds	Galav Sharma	Deepak Yaduvanshi	Little Angel's High School	Gwalior
	Electricity Through Photosynthesis	Palvi Vijay Raikar		Ferguson College	Pune
	A Herbal Solution For Increasing Nutrient Bio Availability	Ruchita Pradeep Poddar	Aparna Dua	The Cathedral-John Cannon School	Mumbai
Chemistry					
	Preparation characteristation of Biodiesel and Activated CNTs From A Waste Biomass and Their Application	Ankan Sengupta		IIT Campus School and Junior College	Mumbai
	R 330	Giridhar Pathak	Suraj. R. Hinduja	Vidya Niketan School	Bangalore
	Application Of Natural Polymer On	Aqsa Sayed		Mary Immaculate Girls' High	Mumbai

	Natural Fibres			School	
Engineering					
	Mobility Unleashed Increasing The Independence Of Wheel Chair	Arpith Siromoney		Union Christian Matriculation Higher Secondary School	Chennai
	2 Legged Walking Robot	Vinayak Pant	Kumar Avijith	Delhi public School	R. K. Puram, New Delhi
	Natural Cooling Of Milk In Transit	Viral K Doshi	Nirav K Nagursheth	Sabari Vidyalaya	Vadodra
Earth & Space Science	No Prizes				
Botany					
	Effects Of Herbal Drugs On Diabetes Melitus	Shrishti Choudhary		Navyug School	New Delhi
	Larvicidal Activity Of A Plant - Prosopis Juliflora On Mosquito Larva, Culex Quinquefasciatus	G. Mookami	R. Janani Preethi	Holy Angels Anglo Indian Higher Secondary School	Chennai
	Hybiscus - Solution For Menorrhagia	S Jananni	S Karthika	Sri Sumati Vishal Jain Girls Higher Secondary School	Chennai
Computer Science					
	Multilingual Aid For The Disabled (Mentally & Physically Challenged)	Avinash Chandrashekhar		PSBB Senior Secondary School	Chennai
	Steganography	Kyan Paradiwalla		Ruia College	Mumbai
	Magic Brush	Sumit Kumar Pranav		Jawahar Navodya	Purnia, Bihar

				Vidyalaya	
Environmental Science					
	Application Of Fly Ash And Coir Pith In Agriculture	S. Santosh Kumar		Kikani Matriculation Higher Secondary School	Coimbatore
	Activated Charcoal From Urban Waste	T. Narendhran	V. Rajiv Ram	Padma Seshadri Bala Bhavan Senior Secondary School	Chennai
	Treatment of effluents by rotating disc biological contractor	T Ajay Shankar	B Kamala Shilpa	Adity public School	Jagannaikpur, Kakinada
Mathematics					
	Tracing Out The Trajectory Of The Ball	M. Naveen Kumar	R. Venu Madhan	Johnson Grammar School	Hyderabad
	Analysis Of Cancerous Growth Using Fractals	Bapat Nirija Sandeep		Ferguson College	Pune
	Mathematical Modeling Of Queuing Systems	Rathik Bansal	Manisha Roy Choudhury	Delhi Public School	R K Puram, New Delhi
Physics					
	An Optically Controlled Wheel Chair	S. Harish Chandra	B. Sriram	Padma Seshadri Bala Bhavan Senior Secondary School	Chennai
	Auto Shut Off Indicator For Two Wheelers	Prem Lokesh	Imran Ali Choudhary	Tagore Public School	Jaipur
	Application Of Traceroute To Measure The Earth's Radius	Swathi M.	Priyanka. B. C.	Holy Angels Anglo Indian Higher Secondary School	Chennai

Project Improvement Session

As a practice 2 hours Project improvement session was organized for the National Winners of Intel STDF along with their guides. The subject experts took the winners individually through the improvements required in their projects and gave them suggestions to present their projects at Intel ISEF. Ms Anjali Nichani briefed the winners on the logistics and informed them to have their passport ready.

SRC forms were distributed at the session and all the students were asked to send the filed-in form back to Mumbai at the earliest. Details and dates for Coaching Camp were also discussed with the winners and their guides.

Media Coverage

Media coverage was provided by the following publications for Intel Science Talent Discovery Fair 2004:

- Business Standard
- The Hindu
- Deccan Chronicle
- Times Of India
- Economic Times
- NIE
- Star TV

Learnings

- One of the key learnings this year was that we must consider having 'Screening Session' for the projects on Day 0. This is to avoid mishaps that may occur due to projects that use inflammable articles (ref: gas cylinder used with pressure-cooker).
- Visiting hours should be for one full day. Lot of schools and students found the time 2.00 pm to 6.00 pm too short.