

Summary

Report Period: April 2015- March 2016

About Exciting Science Group:

The Exciting Science Group comprises of scientists from two of Pune's best research institutions, CSIR-NCL and IISER-Pune. This initiative is aimed at conveying the excitement of science and technology to school students. The motivation behind our programme is to attract the brightest talent from the next generation towards careers in science and technology, since it will be these students who will drive tomorrow's science and innovation based economy.

Popular Talks: Held once a month (on the last Sunday) these talks give students a chance to meet scientists and understand the relevance of their work to society. Typically, these talks are filled with live demonstrations and experiments conducted by scientists – so as to kindle a sense of wonderment in the students. More than 1400 students have participated in the talks this year.

Workshops & Events: Two 5-day workshops on “Having Fun with Scratch Programming and Sensor Boards” targeted at children between the ages 8 – 11 were conducted in May. 66 students participated in this workshop, including students from 3 Pune Municipal Corporation Schools.

Drawing Competition on “Science and Art” for PMC school students between ages 12-14 was organized in July to motivate them to understand the correlation between science and art. ESG received more than 70 entries from 5 PMC schools for the competition.

Two half-day workshops on “Historic Photographic Process” targeted at children between the grades 5 – 8 were conducted in November. This hands-on workshop was intended to introduce kids to the fundamentals of creating photographic prints using Cyanotype Process. 40 students participated in this workshop, including students from 5 Pune Municipal Corporation Schools

ESG organized the first edition of “Kutuhali” – a Science Quiz Competition for school students of grades 8 and 9 in January 2016 at IISER-Pune. The competition was open to schools in and around Pune. The objective of the competition was to improve the learning of science concepts among students, broaden their knowledge, and enhance their strategic thinking ability. A preliminary round was conducted to select four teams for the finals. 8th and 9th standard school students from more than 50 schools sent in online team registrations. This year, the Exciting Science Group received 261 entries from schools as far as Mumbai, Jalna, Baramati and Ahmednagar.

ESG organized a workshop in February 2016 on how to develop research ideas for PMC school students from grade 7 and 8. This year, we received 41 research idea entries from 7 PMC schools in the Research Idea Competition, including from the three schools we partner with. All participants who submitted entries were invited to participate in the workshop, to improve their entries for the final selection round. 3 winners were selected from the final entries and will have the opportunity to do a summer internship at NCL.

Summer Internship Programme: This was a part of a new programme of the Exciting Science Group, to get a few students from Pune Municipal Corporation schools to spend a summer in NCL/IISER labs. The internship provided an opportunity for students to work with mentor scientists and PhD students and experience what it means to work in a research laboratory. 3 students from PMC schools spent their entire summer in research laboratories at CSIR-National Chemical Laboratory, Pune. The internship lasted for two months with the students spending the entire working week at the labs.

Talks at PMC magnet schools: Scientists (from NCL and IISER-P) visit three schools once a month between August to February, and deliver a talk (typically on topics from school textbooks), conduct experiments, and interact with the kids: K.C.Thackeray Vidyaniketan, Near Daruwala Pul; Hutatma Balvir Shirishkumar Vidyalaya, opposite Police lines, and Dr Vasantdada Patil Vidyaniketan, Shukrawar Peth. More than 100 kids have attended the talks this year at the schools. At the end of the talks, students are given small gift (such as a book, or a science kit that we specially put together) that typically relates to the topic discussed. The students are also provided a snack at the end of the talk.

Science Clubs: From last three years, we have also extended our activities by initiating a weekly “Science Club” program at two underprivileged schools (K.C.Thackeray Vidyaniketan and Hutatma Balvir Shirishkumar Vidyalaya). Starting this year, we have expanded the science club activity at Vasantdada Patil PMC Vidyaniketan, Shukrawar Peth. More than 100 kids are a part of the science clubs this year. The science clubs at the schools culminates with the Research Idea Competition. Students from these science clubs develop novel project ideas that they present to CSIR-NCL/IISER scientists in the Research Idea Competition.

The total estimate of the number of student-scientist contact hours this year, through all our activities, including the Popular Talks, Science Clubs, Summer Internships, Workshops and Competitions exceeds 10000.

We would like to acknowledge the generous support for this activity from CSIR-NCL, IISER-Pune, the Venture Center, Forbes Marshall Foundation, Praj Foundation and DSM India Pvt Ltd.



Popular Talks

What:

This series of once-a-month talks aims to connect school students to practicing scientists. Thus, school students get to hear a firsthand account of what it means to do research, and to get a feel for the thrill of discovery. The speakers do not attempt to teach science to the students – rather, the idea is to create a sense of “wow” and to kindle the students’ curiosity. The talks are not meant to be pedantic lectures, but combine live demonstrations, experiments and problem solving exercises to involve the students and engage their attention.

When & Where:

The Popular Talks are held once a month at 10 am on Sunday mornings at the NCL Innovation Park, Pashan. The talks are free and open to students and science teachers. Registration is on a first-come-first-served basis, and is done by sending email to register@excitingscience.org or through our web site: <http://www.excitingscience.org>.

Date	Speaker	What was the talk about?
19 April 2015	Dr Ashish Lele	Hydrogen Energy and Fuel Cells: Exciting Opportunities in India
31 May 2015	Dr Sakya Sen	Color, Art and Chemistry
28 June 2015	Prof. Bhas Bapat	The Smart One Behind Smart Phones
19 July 2015	Dr Durba Sengupta	Chemistry of the Cell Membrane: And How Does it Affect Us?
30 Aug 2015	Dr Gayathri Pananghat	Pushing and pulling in protein filaments
20 Sept 2015	Dr Shekhar Mande	From Molecules to Life
18 Oct 2015	Dr Deepa Subramanyam	“Stem Cells: Superheroes of the past, present and future”
29 Nov 2015	Dr Raghav Rajan	“Understanding how activity in the brain produces movements”
13 Dec 2015	Prof T.S.Mahesh	Present Physics – Future Devices”
19 Dec 2015	Mr Nitin Gupta	“How Drones Work? The Science of Automation!”
03 Jan 2016	Dr Chirag Kalelkar	“Do liquids have a “skin”?”
23 Jan 2016	Prof H.C.Verma	“Role of Experiments in developing physical theories”
20 Feb 2016	Manish Jain & Anirban Ain	“Gravitational Wave Astronomy”
20 Mar 2016	Dr Kundan Sengupta	“Where are my genes? A journey through the nucleus of a human cell

Photographs from the talks:



***Talk on “Hydrogen Energy and Fuel Cells”
by Dr Ashish Lele, Scientist, CSIR-NCL Pune***



***Talk on “Color, Art and Chemistry”
by Dr Sakya Sen, Scientist, CSIR-NCL, Pune***



***Talk on “The Smart Ones behind Smart Phones”
by Prof Bhas Bapat, IISER-Pune***



***Talk on “Chemistry of the Cell Membrane”
by Dr Durba Sengupta, NCL-Pune***



Talk on “Pushing and pulling by protein filaments” by Dr Gayathri Pananghat, IISER-Pune



Talk on “From Molecules to Life” by Dr Shekhar Mande, Director, NCCS-Pune



Talk on “Stem Cells: Superheroes of the past, present and future” by Dr Deepa Subramanyam, NCCS, Pune



Talk on “Understanding how activity in brain produces movements” by Dr Raghav Rajan, IISER-Pune

Talk on “Present Physics-Future Devices” by Prof T.S.Mahesh, IISER-Pune



Talk on “How Drones Work?” by Mr Nitin Gupta, Founder, NavStik Labs



Talk on “Do liquids have a “skin”?” by Dr Chirag Kalelkar, IIT-Kharagpur



Talk on “Role of experiments in developing physical theories” by Prof H.C.Verma, IIT-Kanpur”





Talk on “Gravitational Wave Astronomy” by Manish Jain and Aniban Ain, IUCAA, Pune



Talk on “Where are my genes? A journey through the nucleus of a human cell” by Dr Kundan Sengupta, IISER-Pune

Summer Internship Programme

About the programme: Starting this year, the Exciting Science Group initiated the Summer Internship Programme for the PMC students between April to June. The objective of the internship programme was to provide an opportunity for students to work with mentor scientists and PhD students at NCL and experience what it means to work in a research laboratory over a period of two full months.

This year, we selected one student from each of the three PMC schools we partner with, for the programme: Hutatma Balveer Shirishkumar Vidyalaya, K.C Thackeray Vidya Niketan and Dr. Vasantdada Patil Vidya Niketan.

The three students spent their entire summer break from 15 April 2015 to 15 June 2015 in research laboratories at CSIR-National Chemical Laboratory, Pune.

Name of the student	Name of the school
Akshay Tawale	Dr. Vasantdada Patil Vidya Niketan
Rutuja Rokade	K.C. Thackeray - Vidya Niketan
Pratik Alhat	Hutatma Balveer Shirishkumar Vidyalaya

Dr. Chetan Gadgil, scientist at CSIR-NCL, along with his PhD student Priyanka Saxena mentored Rutuja Rokade and Pratik Alhat. The students did statistical analysis for branching patterns of trees and neurons. They also learnt different microscopy techniques and did cell count to differentiate living and dead cells.

Dr. BLV Prasad, scientist at CSIR- NCL, mentored Akshay Tawale. He worked with one of the Ph.D student, Arun Nikam, on the project "Protein Separation by using Nickel nano-particles."

Students maintained a weekly report of the work done by them in the laboratory. This activity helped them record and interpret the observations. They also learned to present the data of their laboratory work. Gayatri Kshirsagar coordinated with these students during the internship programme.

A felicitation event was organized to meet these students and their scientist mentors at the end of this programme. The students gave a brief presentation of their work and also shared their learning experience during the event.

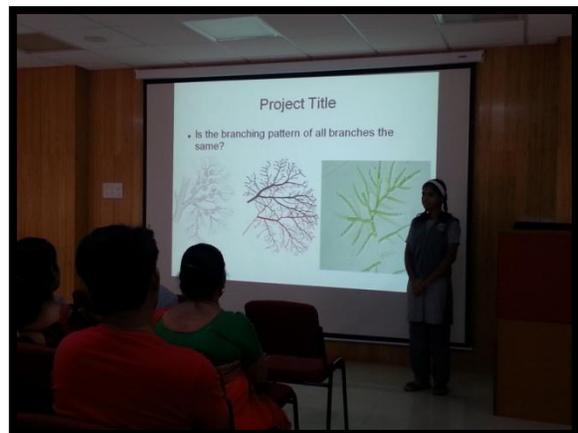
Photographs from the Summer Internship Programme:



Rutuja, Akshay and Pratik along with PhD students at CSIR-NCL



Bina Joshi from Forbes Marshall Foundation felicitated students with certificate of participation



Students explain their research work at the Felicitation event

Feedbacks:

After the internship programme, the PMC students were asked for their feedback and suggestions, the following are what they had to say:

"I was very excited when I got to know about my selection. I didn't know how chemistry labs look like. I learned about nano-particles, magnets, solvent and different chemicals. I also visited biology lab, learned about different types of microscope and instruments. I thank my guide and all the mentors who helped me in this period. Thank you for giving me this opportunity."

- **Akshay Tawale (Dr. Vasantdada Patil Vidyaniketan)**

"I am very fortunate to be selected for this programme. Before joining internship programme, I didn't know what is research. I had many questions in my mind but Dr. Chetan and Ph.D students resolved all the queries. I got chance to see the labs in NCL. Thank you for giving me an opportunity."

- **Pratik Alhat (Hutatma Balvir Vidyalaya)**

"I learned how to present research data and to use computers well. I also learned how to read research papers and have ideas based on certain proofs."

- **Rutuja Rokade (K.C. Thackeray Vidyaniketan)**

Workshop: Scratch Programming and use of Sensor Boards

About Workshop: The Exciting Science Group conducted two workshops on Scratch Programming and use of Sensor Boards. These workshops were held in May 2015, at the Venture Center, Pune, and were targeted at children between the ages 8 – 11. 66 students participated in this workshop, including students from 3 Pune Municipal Corporation Schools (3 from KC Thackeray Vidya Niketan, 5 from Hutatma Balvir Vidyaniketan and 2 from Dr Vasantdada Patil Vidyaniketan). Through the 5 day workshops, students were introduced to the fundamentals of Scratch, a graphical programming interface developed by the Media Lab – MIT, and available for free download. Logical structures and programming constructs were introduced through Scratch, and the students learnt to use them to create games and stories using this programming interface. The most exciting parts of the workshop were to introduce the Sensor Board, hardware and the use of web camera to enable interaction between the physical world and the digital world. Using the sensor board and the camera, the students developed projects that would allow them to interact with the computer. Each student received a certificate of participation at the end of the workshop.

Details:

Date	Speaker	Title	Duration	No. of Participants	No of Volunteers
11 -15 May 15 & 18 – 22 May 15	Shraddha Gargatti	Having Fun with Scratch Programming and Sensor Boards	2.5 hrs/ day for 5 days	66 (33 in each batch)	11

Each workshop was conducted over a 5-day period, from Monday to Friday. Most students used their own laptops but a few used computers provided by the Venture Center. Each day focused on developing a different aspect of logical programming in the participants. Workshop sessions were conducted by Shraddha Gargatti. Volunteers drawn from the student body of the Indian Institute of Science Education and Research (IISER), Pune helped Shraddha run each workshop session. These volunteers were oriented by Shraddha prior to the start of the workshop. The registration of participants was coordinated by Gayatri Kshirsagar.

Photographs from the Workshops:



Faculty explains the scratch interface



Workshop Participants



Student volunteers from IISER-Pune guiding the participants



Student from PMC School attempts to develop a game using Scratch



Demo Programs shown to participants



Certificate of Participation handed over by Dr Premnath, Director, Venture Center

What did the participants who attended these talks say?

After each workshop, kids were asked to fill up an evaluation form in which we had asked the kids to rate us between 1 and 5 (1-Poor; 2-Okay; 3-Good; 4-Very Good; 5-Excellent) on each of the activity (content, explanation by faculty, quality of presentation). Overall, all our sessions got a rating of either 4 or 5. We also took a feedback on the part of the workshop they enjoyed the most. More than 70 percent of the kids enjoyed the explanation and videos (demo programs).

Also, the students were asked for their feedback and suggestions, the following are what they had to say:

"The workshop was mind-blowing. I prefer more demo programs. If there is workshop next year I would love coming and learning more."

- **Samiksha Rathi, The Orchid School**

"It was very good. But my favourite part was the Sensor Board."

- **Arnav Kiran Nair, Vikhe Patil Memorial School**

"It was very exciting! So I enjoyed it a lot. I would like to join the workshop next year! "

- **Aditi Salwe, Global Indian International School**

"I liked Scratch Programming. If it was for 12 days it would be fun instead of 5 days. It was the best workshop."

- **Nathan Wesley, K Line Memorial School**

"Suggestion: If this camp was for longer it would have been better."

Comment: I loved everything, especially making our own games."

- **Aryaman Natrajan, St. Mary's School**

Event: Science and Art Competition

The Exciting Science Group organized “**Science and Art**” competition for Pune Municipal Corporation (PMC) schools on 25th July 2015 at NCL Innovation Park from 9.30 am to 12 pm.

ESG received more than 70 entries from 5 PMC schools: Hutatma Balveer Shirishkumar Vidyalaya, K.C Thackeray Vidyaniketan, Dr. Vasantdada Patil Vidyaniketan, Smt.Savitribai Phule Prashala and Babu Jagjeevan school.

The objective of this competition was to motivate students to understand the correlation between science and art and thereby boost their imagination. ESG also provided required art materials to the students. The event was coordinated by Gayatri Kshirsagar.

The students were given the following topics based on science on the day of the competition:

1. If I were a scientist
2. The world without technology
3. Indian Agriculture in the year 2050

Renowned artist Ravi Paranjape was the Chief Guest for the event and artists Radhika Sehgal, Sujata Dharap and Jayati Patil were the judges.

During the event, the chief guest Mr. Ravi Paranjape addressed the students about correlation between Art and Science. He shared details about how different colors are formed due to certain chemical reactions, and how art is the basis of unique creations in the world. He motivated the students to learn our ancient arts, and to develop their own style and give birth to new innovations in the world. He also suggested to the students to think beyond their curriculum and believe in their perception.

The winners were felicitated with prizes at the end of the competition. All the participants received a certificate of participation and a gift from the Exciting Science Group.

Position	Name of the winners	Name of the school
First	Prachi Balla	K.C. Thackeray - Vidyaniketan
Second	Yogesh Byagari	Smt.Savitribai Phule Prashala
Third	Shraddha Kamble	K.C. Thackeray - Vidyaniketan
Fourth	Nabi Mulla	Dr Vasantdada Patil Vidyaniketan

Photographs from the Competition:



Participants at the "Science and Art" Competition and their drawings



Participants being addressed by the Chief Guest Ravi Paranjape



Winners of the competition along with the Chief Guest and the Judges

Felicitation:



Felicitation of winners by Artist Ravi Paranjape

Drawings of the winners

Feedbacks:

After the event, the PMC students were asked for their feedback and suggestions, the following are what they had to say:

It was a good experience and was helpful for everybody. As it was in a form competition, everyone was trying to come first. It was a good opportunity for us to express our ideas. We got chance to talk to experts in science and arts .The topics were too much interesting which made us think. I was happy to get first prize by the hands of Ravi Paranjape. There were not only the students who won but participants also got gifts.

Prachi Balla (K.C. Thackeray Vidyaniketan)

The topics that were given to us seemed to be difficult. But we chose the topic "Indian Agriculture in year 2050". Gayatri didi gave us material like water colour, brush, crayons. After the competition, we got snacks and magic cards as gift. We enjoyed a lot.

- Yash Dhumal & Yash Meshram (Dr. Vasantdada Patil Vidyaniketan)

When I reached to venue, I got scared to see huge number of students from various schools. I didn't think I will get a prize. When I heard the topics, I started thinking and chose the topic "The world without technology".

- Nabi Mulla (Dr. Vasantdada Patil Vidyaniketan)

I had never seen NCL Innovation park before but because of this competition, I got opportunity to visit NCL Innovation Park. I love drawing and Gulvani ma'am also motivated me to take part in this competition. We got opportunity to interact with eminent artist Ravi Paranjape. I liked his talk about "Science and art". The topics were based on Science hence; more importance was given to Science over art that really boost our thought process.

- Maheshwari Bondage (Hutatma Balveer Vidyalaya)

I like the NCL-Innovation Park campus. We got opportunity to interact with the great scientists and artist Ravi Paranjape. I am now confident that I can imagine and make drawings based on science topics. It was really nice experience.

- Vishal Mahule (Hutatma Balveer Vidyalaya)

I am very thankful for giving me a chance to participate in drawing competition. It was nice experience which taught a lot to me about facing any kind of competition. The guidance by Ravi Paranjape sir was valuable.

- Mohit Sasane (Savitribai Phule Prashala)

For the first time, I was participating in such a huge competition. This experience has boosted my confidence level. Guidance by artist Ravi Paranjape was very nice and will be useful for lifelong. The arrangement was also very good.

- Yogesh Byagari(Savitribai Phule Prashala)

I was having lots of fun there. There were students and teachers from different schools. After we finished, we got gifts. It was good experience.

- Shailesh Vairat (Babu Jagjeevan School)

Workshop: Historic Photographic Process

About the Workshop: The Exciting Science Group conducted two half-day workshops on “Historic Photographic Process”. These hands-on workshops were held in November 2015, at the Venture Center, Pune, and were targeted at children between the grades 5-8. 40 students participated in this workshop, including students from 5 Pune Municipal Corporation Schools (2 from KC Thackeray Vidya Niketan, 2 from Hutatma Balvir Vidyaniketan, 2 from Dr Vasantdada Patil Vidyaniketan, 2 from PMC Vidyaniketan No. 20 and 2 from Swami Vivekanand Vidyalaya). This was a unique workshop as camera was not required. Through the half-day day workshops, students were introduced to the fundamentals of cyanotype photographic printing process which produces a cyan-blue coloured print. The process was discovered by English scientist and astronomer **Sir John Herschel** in 1842. This process was widely used as a simple and low-cost process to produce copies of drawings, referred to as **blueprints**. The participants were introduced to various steps involved in creating Cyanotype prints including preparation of solution, coating the paper, printing and processing.

Details:

Date	Speaker	Title	Duration	No. of Participants
21 Nov 2015	Mr Girikumar, Art Conservator	Historic Photographic Process	3 hrs / batch	40

Workshop sessions were conducted by Mr Girikumar, an art conservator with specialization in ‘Conservation of Photographic Materials’. He explained history of photography, different techniques used in this photography. He also explained science behind developing cyanotype photographic prints. The kids produced photographic prints by using various plant leaves and chemicals. They enjoyed cyanotype photographic process which is a simple, classic alternative and traditional method to produce photographs. All the participants were provided with the required materials for the workshop. Each student received a certificate of participation at the end of the workshop. The registration of participants was coordinated by Gayatri Kshirsagar.

Photographs from the Workshops:



Faculty explains the cyanotype process to the participants



Workshop Participants learn the technique of cyanotype printing process



Participants learn about photographic printing

Certificate of Participation handed over by Dr K Guruswamy, Scientist, CSIR-NCL



Workshop Participants

What did the participants who attended these talks say?

After each workshop, kids were asked to fill up an evaluation form in which we had asked the kids to rate us between 1 and 5 (1-Poor; 2-Okay; 3-Good; 4-Very Good; 5-Excellent) on each of the activity (content, explanation by faculty, overall rating). Overall, both the sessions got a rating of either 4 or 5. We also took a feedback on the part of the workshop they enjoyed the most. All the kids enjoyed developing the photographic print the most.

Also, the students were asked for their feedback and suggestions, the following are what they had to say:

“The workshop was fascinating and fantabulous. Thanks for inviting me.
Always keep such exciting workshops.

- *Devadatta Thangaonkar. (K. C. Thackeray Vidyaniketan)*

“Awesome workshop!! Please keep conducting such workshops”.

- *Kishore R. (D.A.V Public School, Pune)*

“We should have made more photographic prints”.

- *Samiksha Rathi (The Orchid School)*

“This workshop should be conducted again”.

- *Suyog Gokhale (New India School)*

“A very good workshop, I enjoyed”.

- *Rani Khedekar (Hutatma Balveer Shirishkumar Vidyalaya)*

Talk at PMC Magnet Schools

What:

Scientists (from NCL and IISER-P) visited three PMC magnet schools once a month, and delivered a talk (typically on topics from school textbooks), conducted experiments, and interacted with the kids. At the end of the talks, students are given small gift (such as a book, or a science kit that we specially put together) that typically relates to the topic discussed. The students are also provided a snack at the end of the talk.

Schools covered:

- ***K C Thackeray Vidyaniketan, Near Daruwala Pul, Shaniwarvada***
- ***Hutatma Balvir Shirishkumar Vidyalyaya, Opp Police lines, Shivaji Nagar***
- ***Dr Vasantdada Patil Vidyaniketan, Shaniwar Peth***

When, How Often:

These talks are typically planned once a month

Date	Speaker	What was the talk about?	Gift given to students
1,7 & 8 August 2015	Neelesh Dahanukar, IISER-Pune	Game Theory and Behavior	Book titled "The Story of Physics"
1, 3 & 9 Oct 2015	Gayathri Pananghat, IISER-Pune	Molecules, Rotating bonds and muscle movement	Molecular Model Kits were used for demonstration and given to kids during the talk. Sample kits given to teachers.
27, 28 Nov 2015 & 1 Dec 2015	Anisa Chorwadwala, IISER-Pune	Fun with Maths	Math Kit and Tower of Hanoi
4, 5 & 12 Dec 2015	Nishad Matange, IISER-Pune	Physics of Musical Instruments	Book titled "Shot in the Arm"
20 & 23 Jan 2016	Deepa Subramanyam, NCCS Pune	Stem Cells: Superheroes of the past, present and future	Book titled "Cloning"

Photographs from the talks:



Talk by Prof Dahanukar at Hutatma Balveer Vidyalaya



Talk by Prof Dahanukar at K C Thackeray Vidyaniketan



Talk by Prof Dahanukar at Dr Vasantdada Patil Vidyaniketan



Talk by Dr Gayathri Pananghat at Dr Vasantdada Patil Vidyaniketan



Talk by Dr Gayathri Pananghat at K C Thackeray Vidyaniketan



Talk on "Fun with Maths" by Dr Anisa Chorwadwala at HB School



Talk on "Fun with Maths" by Dr Anisa Chorwadwala at KCT School



Talk on "Fun with Maths" by Dr Anisa Chorwadwala at VDP School



Talk on "Physics of Musical Instruments" by Dr Nishad Matange at HB School



Talk on “Physics of Musical Instruments” by Dr Nishad Matange at VDP School



Talk on “Physics of Musical Instruments” by Dr Nishad Matange at KCT School



Talk on “Stem Cells” by Dr Deepa Subramanyam at HB School



Talk on “Stem Cells” by Dr Deepa Subramanyam at KCT School

What did the teachers who attended these talks say?

"It was informative through actual demonstration. It was a good example of how things (even difficult) can be learnt through actual game/activity. The talk had a lot of thinking keys/triggers. It had curiosity arousal."

- Ms Smita, Science Teacher, K C Thackeray Vidyaniketan

"Students got clarity on different scientific concepts. Enthusiastic participation by students in the hands-on activity."

- Mrs Ubale, Dr Vasantdada Patil Vidyaniketan

"Excellent student interaction activity. Hands-on for permanent learning. Topic was new and interesting."

- Mrs Punita Acharya, K C Thackeray Vidyaniketan

Science Clubs

What:

The students are mentored by research students from CSIR-NCL and IISER during the weekly sessions. The basic objective of this club is to develop the students' abilities to think analytically and creatively and encourage the participation of students in research based projects, like Intel/Google science fair. The members are either engaged in science activities, or they plan/discuss/work on a science project or have a special scientific visitor. This program gives tremendous opportunity for the students to engage in more hands-on activity, which enhances their approach towards science in their classes.

When and for how long:

Once a week. Typically 1- 1.5 hours.

Where, Who attends, Volunteers:

The science clubs are run in the following schools:



K.C.Thackeray Vidyaniketan

Daruwala Pul (KCT)

Number of students attending per week: 30
Grade: 7



Hutatma Balvir Vidyalaya

Police Lines (HB)

Number of students attending per week: 40
Grade: 8



Dr Vasantdada Patil Vidyaniketan

Shukrawar Peth (VDP)

Number of students attending per week: 40
Grade: 8

The Science Club Fellows conducting the Science Club sessions at the 3 PMC schools:

K C Thackeray Vidyaniketan:



Kumar Priyadarshi,
4th year BS-MS, IISER-P



Nilima Walunjar,
4th year BS-MS, IISER-P



Kunal Kotheekar
Research Scholar, IISER-P

Hutatma Balveer Vidyalaya:



Suvidyakumar Homkar,
4th year BS-MS, IISER-P



Ameya Pofare
4th year BS-MS, IISER-P



Hardik Manek,
CSIR-NCL, Pune

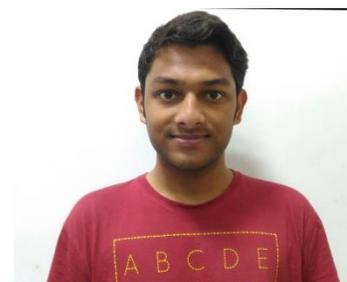
Dr Vasantdada Patil Vidyaniketan:



Aseem Rajan
4th year BS-MS, IISER-P



Muzammil Khan
PhD student, CSIR-NCL



Saurabh Talele,
4th year BS-MS, IISER-P

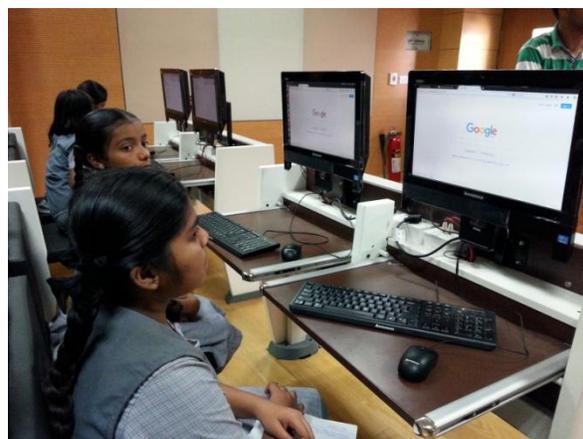
Photographs from the Science Club sessions:



K C Thackeray School



Hutatma Balvir School



Session on Basics of Internet search conducted at IISER-Pune

Kutuhhal 2016 – Science Quiz Competition

The Exciting Science Group (www.excitingscience.org) organized its first-ever Inter-School Science Quiz Competition – Kutuhhal 2016 on Saturday, 9th January 2016 at IISER-Pune. This competition was open to students of class 8 and class 9 in two phases – Preliminary Round & Final Round. The objective of the competition was to provide a unique and exciting platform for school students to encourage their thinking skills in scientific concepts.

We opened out the Science Quiz competition to school students in and around Pune. 8th and 9th standard school students from more than 50 schools sent in online team registrations. This year, the Exciting Science Group received 261 entries from schools as far as Mumbai, Jalna, Baramati and Ahmednagar

More than 240 teams viz. >500 students turned up for the preliminary round of the competition. The preliminary round was written in which the teams had to attempt a multiple choice questionnaire. Four teams were selected for the final round. The Finals had 6 rounds as follows: fun with science, I am a scientist, science in my kitchen, science of everyday objects, science of the human body, and the rapid fire round. Mr Arvind Gupta, well-known toy inventor addressed the audience and felicitated the finalists. All participants received a certificate of participation.

Position	Names of Finalists	School
Winners	Shouryan Nikam and Shubham Chury	Vidya Valley School
Runners-Up	Saahil Behere and Atharv Oak	Dr Vikhe Patil Memorial School
Third	Yash Dabhade and Yash Kabra	Hutchings High School
Fourth	Ishaan Shah and Aditya Madkar	Dr Kalamadi Shamrao High School

The winners received a trophy and individual mementos, while the runners-up received individual mementos. All finalists also received individual cash prizes.

Photographs from the competition:



Teams attempting the preliminary round questions at Lecture Hall Complex, IISER-Pune



Final Round of Kutuhal 2016 – Sir C V Raman Auditorium, IISER-Pune



Teams from Dr Vikhe Patil School & Dr Kalamadi Shamrao School



Teams from Vidya Valley School & Hutchings High School



IISER-Pune Faculty – Judges of the Final Round of Kutuhall 2016



Preliminary Round Participants, Teachers and Parents viewing the Final Round



Mr Arvind Gupta addressing the audience



Felicitation of the finalists by Mr Gupta

Workshop: Research Idea Competition

ESG organized a half-day workshop on Saturday, 27 February 2016 on how to develop a research idea, for PMC school students of grade 7 and 8. This year, we received 41 research idea entries from 7 PMC schools including the three schools we partner with. (13 from KC Thackeray Vidya Niketan, 11 from Hutatma Balvir Vidyaniketan, 7 from Dr Vasantdada Patil Vidyaniketan, 4 from Rajiv Gandhi Academy of E-learning, 4 from Rafi Ahmed Kidwai Urdu High School, 1 from Hakim Ajmal Khan Urdu Madhayamik Vidyalaya and 1 from Smt Shantabai Balkrishna Dhole School)

The workshop was conducted by Dr K.Guruswamy, Scientist, NCL Pune and ESG coordinator. The objective of the workshop was to provide an opportunity for the participants to improve their entries before the final selection round. The participants were then given a week to work on their entries again. 3 winners were selected by the ESG coordinators from the final entries. The winners will get an opportunity to intern at NCL labs during this summer and experience what it means to work in a research laboratory. The three students will spend their entire summer break from 15 April 2016 to 15 June 2016 in research laboratories at CSIR-NCL.

Workshop Photographs:



Participants being addressed by Dr K Guruswamy, Scientist NCL Pune & ESG Coordinator

Science Club Mentor Kunal Kotheekar addressing the participants queries

20 April 2015 Sakal Times

Expert explains fuel cell tech

ST CORRESPONDENT
reporters@sakaaltimes.com

Pune: Ashish Lele, Chief Scientist of Council of Scientific and Industry Research - National Chemical Laboratory (CSIR-NCL) explained fuel cell technology to school students at NCL on Sunday morning.

The programme was organised as a part of Popular Science Talks by Exciting Science Group (ESG), a volunteer group of scientists from CSIR-NCL and Indian Institute of Science Education and Research (IISER) Pune. More than 150 students from various schools took part in the programme.

Lele informed the students about India's expense of over \$3 billion spent on importing diesel to power diesel generator (DG) sets for telecom towers. He also explained the cost-effective method of fuel cell product for such DG sets for telecom towers.

In the interactive session, Lele showed the students a fuel cell stack that had been assembled in NCL. He also described the various components of a working fuel cell stack which are made up from polymer membrane-based assembly.



ATTENTIVE:
Ashish Lele, chief scientist of (CSIR - NCL) explaining fuel cell technology to school students at NCL on Sunday.

ESG WORKSHOP ON GRAPHICAL PROGRAMMING

- ESG will be conducting a week-long summer workshop for 8-10 years old budding scientists to introduce them to Scratch graphical programming interface. This will be held in May and is free of cost as all ESG activities are supported by generous donations from the Forbes Marshall Foundation, the Praj Foundation and DSM, India. Interested students can register themselves on website, www.excitingscience.org.

26 May 2015 Maharashtra Times

आर्ट, कलर, केमिस्ट्रीची सायन्स टॉकमध्ये चर्चा

म. टा. प्रतिनिधी, पुणे

विज्ञानाबाबत मुलांमध्ये गोडी निर्माण व्हावी, त्यात संशोधन करण्याची इच्छा निर्माण व्हावी या हेतूने नॅशनल केमिकल लॅबोरेटरी आणि व्हॅचर सेंटर यांच्यातर्फे राबविल्या जाणाऱ्या सायन्स टॉक या उपक्रमांतर्गत 'आर्ट कलर अँड केमिस्ट्री' या विषयावरील टॉकचे आयोजन करण्यात आले आहे.

येत्या रविवारी (३१ मे) ट्रेनिंग रूम, व्हॅचर सेंटर, एनसीएल, पाषाण येथे सकाळी दहा ते सव्वाअकरा या वेळेत हा सायन्स टॉक होणार आहे. एनसीएल येथील वरिष्ठ शास्त्रज्ञ डॉ. साक्य सेन या विषयावर संवाद साधणार आहेत. इयत्ता चौथी ते दहावी या वयोगटातील (वय वर्षे दहा वर्षे आणि त्यापुढील) मुलांना तसेच विज्ञानप्रेमींना या टॉकमध्ये सहभागी होता येणार आहे. या टॉकमध्ये सहभागी होण्याची इच्छा असणाऱ्यांनी नावनोंदणी करावी, असे आवाहन एनसीएलतर्फे करण्यात आले आहे. कार्यक्रमाच्या ठिकाणी नावनोंदणीची व्यवस्थाही आहे.

गेले सहा वर्षे हा उपक्रम राबविला



रविवारी
आयोजन;
नावनोंदणीचे
आवाहन

- ३१ मे रोजी ट्रेनिंग रूम, व्हॅचर सेंटर, एनसीएल, पाषाण येथे आयोजन.
- इयत्ता चौथी ते दहावी या वयोगटातील (वय वर्षे दहा वर्षे आणि त्यापुढील) मुलांना तसेच विज्ञानप्रेमींना या सायन्स टॉकमध्ये सहभागी होता येईल.
- नावनोंदणीसाठी वेबसाइट : register@excitingscience.org

जात आहे. यापूर्वी 'केमिस्ट्री ऑफ फूड', 'ओरिजिन अँड इव्हल्यूशन ऑफ अर्थ', 'हायड्रोजन एनर्जी अँड फ्युएल सेल' या विषयावर सायन्स टॉक झाले आहेत.

28 May 2015 Loksatta

वृ | ता | न्त

पुणे, गुरुवार, २८ मे २०१५

माहितीसाठी

विज्ञानविषयक व्याख्यान

एनसीएल इनोव्हेशन पार्क तर्फे ३१ मे रोजी 'कलर, आर्ट अँड केमिस्ट्री' या विषयावर व्याख्यानाचे आयोजन करण्यात आले आहे. वरिष्ठ संशोधक डॉ. साक्य सेन हे मार्गदर्शन करणार आहेत. हे व्याख्यान एनसीएल

इनोव्हेशन पार्क, पाषाण रस्ता, आवसर जवळ या ठिकाणी होणार आहे. नावनोंदणी पुढील संकेतस्थळावर करायची आहे. www.excitingscience.org/register.php, www.excitingscience.org/register_alt.php

अंधशाळेसाठी प्रवेश सुरू

आळंदी येथील राष्ट्रीय दृष्टिहीन संघातर्फे संचालित जागृती अंध मुलींसाठीच्या शाळेत २०१५-१६ या शैक्षणिक

वर्षासाठी १ ला ते ६ वी साठी प्रवेश देणे सुरू झाले आहे. या शाळेत मुलींना विनामूल्य शिक्षण, भोजन, निवास, गणवेश या सोयी उपलब्ध आहेत. प्रवेशासाठी पुढील क्रमांकावर संपर्क करण्याचे आवाहन केले आहे. ०२०-२३२२९०, ९६५७८२८८६३

आरोग्य शिबिर

रेटरी क्लबतर्फे २९ मे रोजी रेल्वे

कर्मचारी व त्यांच्या कुटुंबीयांसाठी आरोग्य तपासणी शिबिराचे आयोजन केले आहे. हे शिबिर मंडल रेल प्रबंधक कार्यालय, हॉटेल लि मेरेडियन जवळ होणार आहे. या शिबिरात ब्लडप्रेसर, डायबेटिस, रक्ततपासणी आणि मॅमोग्राफी (स्तनांच्या कर्करोगाची तपासणी) करण्यात येणार आहे.

BOLLYWOOD

1 June 2015 Sakal Times

Scientist explains colours, art conservation to students



GOOD LEARNING:
Sakya S Sen, scientist at CSIR - National Chemical Laboratory conducting the workshop for students at the NCL Innovation Park.

ST CORRESPONDENT
reporters@sakaltimes.com

Pune: Students from various schools were engrossed in an informative talk about factors related to colours, arts and chemistry by Sakya S Sen, a scientist from CSIR - National Chemical Laboratory at NCL Innovation park on Sunday.

The programme was organised as part of the Popular Science Talks by the Exciting Science Group (ESG), a volunteer group of scientists from CSIR-NCL and Indian Institute of Science Education and Research (IISER)

Pune. More than 150 students from various schools took part in the programme.

Sen explained all the basic concepts related to colours, including what is colour, complementary colour, co-

#ExcitingScienceGroup

lour perception and more. Sen also explained the difference between the vision of birds, human and other animals through various examples.

An art conservation session was also part of the programme. It covered

factors which affect art and how to conserve it with the help of various techniques. He said that atmospheric oxygen, temperature and humidity changes, air pollution and exposure to light affects the art. Art conservation involves cleaning the work, analysing the work for damage, restoring the damaged areas and preserving the original.

He explained how chemicals help police, forensic investigators to identify fingerprints, blood stains at the crime scene. In a later segment he explained different types of paints including pigments, media and diluents.

Jun 19 2015 : MaharashtraTimes (Pune)

पालिका शाळांसाठी 'समर इंटरनॅशिप'



समर कॅम्पमध्ये सहभागी झालेले विद्यार्थी.

सीएसआयआर- एनसीएल या कालावधीत एनसीएल येथील आणि 'आयसर'च्या वतीने प्रयोगशाळेत काम करण्याची संधी नुकताच 'समर इंटरनॅशिप प्रोग्राम' मिळाली. विशेष म्हणजे मुलांना हा नवीन उपक्रम आयोजित केला संशोधन म्हणजे नेमके काय, गेला. या उपक्रमांतर्गत पुण्यातील शास्त्राध्यय, प्रयोग शाळेत कसे काम महानगरपालिकेच्या हुतात्मा बालवीर करतात, पीएचडी कशा प्रकारे केली शिरीषकुमार विद्यालय, के. सी. ठाकरे जाते, याबद्दल त्यांना जवळून ओळख विद्यानिकेतन आणि डॉ. वसंतदादा झाली. या कार्यक्रमासाठी फोर्बज पाटील विद्यानिकेतन या शाळेतलं मार्शल फाउंडेशन, प्राज्ञ फाउंडेशन प्रत्येकी एक अशा तीन विद्यार्थ्यांचा आणि डीएस, एम. इंडिया यांना या समावेश प्रयोगशाळेत काम करण्याची मुलांचे कौतुक केले. या वेळी मुलांनी संधी मिळाली. त्याअंतर्गत मुलांना त्यांना प्रयोगशाळेत आलेले अनुभव १५ एप्रिल २०१५ ते १३ जून २०१५ व्यक्त केले.

29 June 2015 Sakal Times

#SmartOneBehindSmartPhones

Expert explains intricacies of smartphones to students

Topics covered include electromagnetic signals, binary code and others

Parag Jadhav

ST CORRESPONDENT
reporters@sakaltimes.com

Pune: There is a need to understand how human communication elements and a machine signal can be inter-linked to create seamless communication, which is seen in today's smartphones, said Bhas Bapat, associate professor at Indian Institute of Science Education and Research (IISER).

Bapat was giving a lecture to school students for the science outreach programme titled 'Smart One Behind Smart Phones', conducted at National Chemical Laboratory, Pune (NCL) Innovation Park, on Sunday.

"The smartphone which is used today has a diverse history behind it and it involves a lot of complex procedures to make modern communication possible. All this is possible only through the use of pre-decided codes, which is important to make sense of the signal. These codes are further given a value, which is



SHARING KNOWLEDGE. Bhas Bapat interacting with the students during the science outreach programme titled 'Smart One Behind Smart Phones' at NCL Innovation Park, on Sunday.

used to provide context and content," said Bapat.

Bapat explained various topics to enthusiastic students which included electromagnetic signals and binary code. He explained how sound and light influenced the inventions in communications which led us to create the ability to send and receive electromagnetic signals and the manipulation

of electronic data.

Explaining the Morse code, Bapat said, "The Morse code is one of the earliest forms of texting devices. And despite it being the oldest form of technology and its various limitations, it is still used by the military for various reasons," he told the students.

The students were equally enthusiastic and asked various questions on the topic to Bapat, who an-

swered them effortlessly.

The outreach programme talks are conducted by NCL on a monthly basis to motivate students about science and technology and help them understand what is research and what makes scientists conduct it on a consistent basis. Scientists from various fields such as engineering, physics and medical background are invited to give such talks.

PUNE CANTONMENT BOARD

15 July 2015 – Sakal Times**CITY BRIEFS****NCL to hold outreach talk for school students on July 19**

National Chemical Laboratory (NCL) has organised the next outreach popular talk on 'Chemistry of the cell membrane: And how does it affect us?' on July 19. The speaker, Dr Durba Sengupta, is a scientist (Physical and Materials Chemistry division) at CSIR-NCL. She is a Ramalingaswami Fellow and investigates the processes that take place at the cell membrane with computer simulations. The session will be held at the Training Room, Venture Centre, 100, NCL Innovation Park from 10 am to 11.15 pm. To register, email to register@excitingscience.org with your name, school, standard and phone number or sign up via the web-based form at <http://www.excitingscience.org/register.php> or http://www.excitingscience.org/register_alt.php. Registration is on a first-come-first-served basis.

23 July 2015 Sakal Times

Students enjoy science lecture organised by ESG

Pune: Over 150 students got to know about various interesting facts related to cell, its structure, molecules, etc. at a programme organised by Exciting Science Group (ESG), a volunteer group of scientists from CSIR-NCL and IISER-Pune, recently.

Durba Sengupta, Scientist (Physical and Material Chemistry division) at CSIR-NCL, Pune, delivered an interesting lecture to students from various schools. She has completed her PhD in Heidelberg, Germany, and Post doctoral research at Groningen, Netherlands. She is also a Ramalingaswami Fellow. She investigates the process that takes place at the cell membrane by computer simulations.

During the lecture, she explained various science facts including what is a cell and what is it made up of, structure of cell, how unicellular and multi-cellular organisms are



IMPARTING SKILLS: Durba Sengupta delivered a lecture organised by Exciting Science Group recently.

different from each other; how life evolved and how bacteria and viruses are different.

She showed demonstrations for different chemical reactions like what happens when sugar, crushed pomegranate and milk are mixed in ethanol and water. And explained different biochemical tests, which are

generally used in food industry. Sengupta also showed videos of how cells are formed. Students were also asked to practically perform small experiments.

All ESG activities are supported by generous donations from the Forbes Marshall Foundation, the Praj Foundation and DSM India. 57

28 July 2015 Loksatta – Science and Art Competition

'सायन्स-आर्ट' चित्रकला स्पर्धेत प्राची बल्ला पहिली

एक्ससाईटिंग सायन्स ग्रुपच्या वतीने महानगरपालिकेच्या विद्यार्थ्यांसाठी आयोजित करण्यात आलेल्या 'सायन्स आणि आर्ट' या स्पर्धेत प्राची बल्ला हिला पहिला क्रमांक मिळाला. योगेश भ्यागी याने दुसरा, तर श्रद्धा कांबळे हिने तिसरा क्रमांक पटकावला. विद्यार्थ्यांना विज्ञान आणि कला यांच्यातील संबंध लक्षात यावा तसेच त्यांच्यातील सृजनशीलतेस वाव मिळवा या दृष्टिकोनातून ही स्पर्धा घेण्यात आली होते. महानगरपालिकेच्या पाच शाळांमधून जवळपास ७० हून अधिक विद्यार्थ्यांनी भाग घेतला होता. त्यांनी 'मी शास्त्रज्ञ झालो तर', 'सन २०१५ मधील भारतीय शेती', 'जगात तंत्रज्ञान नसते तर' या विषयांवर चित्रे काढली. प्रसिद्ध चित्रकार रवि परांजपे यांनी या वेळी विद्यार्थ्यांना मार्गदर्शन केले. चित्रकार राधिका सेहगल, सुजाता धारप आणि जयंती पाटील यांनी स्पर्धेचे परीक्षक म्हणून काम पाहिले.



29 August 2015 – Sakal Times

CITY BRIEFS

Exciting science talk on Protein Filaments

CSIR-NCL and Exciting Science will organise a talk on 'Pushing and Pulling by Protein Filaments' on August 30. Gayathri Pananghat from IISER will deliver the talk.

The talk is organised in association with IISER-Pune, Venture Centre, Forbes Marshall Foundation, Praj Foundation and DSM India Pvt Ltd. The talk will be held at training room, Venture Centre, 100, NCL Innovation Park between 10 and 11.30 am. Interested students may register by sending their details on register@excitingscience.org or log on to www.excitingscience.org/register.php or www.excitingscience.org/register_alt.php

2 September 2015 Sakal Times

Exciting Science Group's lecture held

Pune: Over 140 students from city-based schools attended the science talk on 'Pushing and Pulling By Protein Filaments' organised by The Exciting Science Group (ESG), a volunteer group of scientists from CSIR-NCL and IISER-Pune on Sunday.

ESG aims at bringing the joy and excitement of scientific research to school students. This also gives the students a chance to interact with eminent scientists.

The talks was delivered by Gayathri Pananghat, Department of Science & Technology (DST) INSPIRE fellow, Biology Division, at IISER, Pune. She completed her Ph.D from Indian Institute of Science, Bengaluru, and post doctoral research at MRC Laboratory of Molecular Biology, Cambridge.

She shared details about 'How do

proteins fold, What are their functions, Where are they present, How different proteins help all the living organisms in vital life processes.' She said that functions of proteins is like building blocks or gatekeeper or transport proteins, which allow certain molecules to enter into the cells. She correlated these concepts with real life examples.

She used video clips to explain the difference between the functioning of proteins in different organisms like in human, bacteria and viruses. She also briefed about how protein filaments push and pull molecules, organelles and even bacteria by using the energy stored in a proton gradient. She also explained concepts like microfilaments and microtubules, which play an important role in cell division and in cell motility.



DEMO: Gayathri Pananghat demonstrating various things at Exciting Science Group's exciting science talk recently.

This ESG activities were supported by generous donations from the Forbes Marshall Foundation, the Praj Foundation and DSM India. 57

21 September 2015 Sakal Times



www.sakaaltimes.com

MONDAY SEPTEMBER 21, 2015

3

ESG organises lecture on molecules in living systems

ST CORRESPONDENT

reporters@sakaaltimes.com

Pune: Director of National Centre for Cell Sciences (NCCS) Shekhar Mande conducted a lecture for school students about the molecules in living systems, recently.

He was addressing school students on 'From molecules to life'. He explained to the students the progress of life from a molecular stage to a living being.

This was as part of the Exciting Science Group's (ESG) Popular Science Talks. Mande explained the complexities of living systems that act as distinguishing factors from the non-living which he explained to be caused because of a small subset of building blocks.

He elaborated on some of these building blocks that combine together to yield the complex traits, including growth, behaviour and emotions in living beings.



LECTURE: NCCS Director Shekhar Mande speaking at the programme held by the Exciting Science Group.

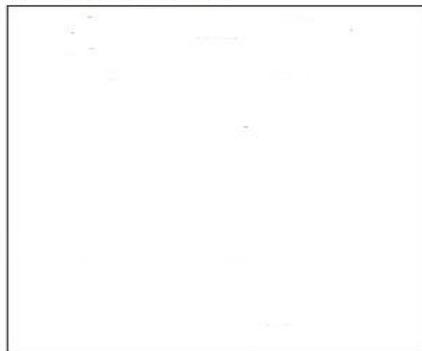
The main aim of organising such talks is to allow school students get closer and interact with scientists and know about their way of functioning and doing research.

19 Oct 2015 - Times of India

Printed from

THE TIMES OF INDIA**Pune school students get a lesson in stem cells**

TNN | Oct 19, 2015, 01:48 AM IST



Pune: Scientists from the National Centre for Cell Science (NCCS) brought out interesting facts about stem cells and regeneration to school students on Sunday as part of the Exciting Science Group Popular Science Talks.

The talk by Deepa Subramanyam, scientist at NCCS Pune, drew a packed auditorium, a statement issued by the Exciting Science Group said.

Subramanyam said that regeneration has been studied in simpler organisms such as planaria and sea stars. She brought out a fascinating fact that similar pathways and signals are utilised in stem cells and regenerating organisms like planaria.

"Stem cells, as we know them today, present a valuable resource for regenerating tissues that are lost from our body due to either debilitating diseases or accidents. Scientists are still testing the safety of stem cells and improving techniques which will allow these cells to be used in the clinic," she said.

The Exciting Science Group is a programme initiated by a volunteer group of scientists from the National Chemical Laboratory and Indian Institute of Science Education and Research-Pune, and based at the Venture Centre.

The group organizes regular programmes to bring the joy and excitement of scientific research to school students.

The Popular Science Talks are organized by the group at Venture Centre in Pashan to allow school students to interact with researchers like Subramanyam.

ESG also announced that it will conduct the next popular talk on "Understanding how activity in the brain produces movements" on November 29.

25 Nov 2015 - Sakal Times

Exciting Science Group organises workshop on cyanotype printing

ST CORRESPONDENT
reporters@sakaaltimes.com

Pune: A photography workshop entitled 'Historic Photography Process' was organised by the Exciting Science Group (ESG) recently at Venture Center, NCL Innovation Park. The three-hour workshop was conducted in two batches wherein a total of 40 students from various schools across Pune participated.

The municipal corporation schools that participated in the workshop were Hutamta Balvir Shirshkumar Vidyalaya, Shivajinagar; KC Thackeray Vidyaniketan, Daruwala Pool, Vasantdada Patil Vidya Niketan Shukrawar Peth, Swami Vivekananda Vidyaniketan, University Road and Sant Tukaram Vidyaniketan, Sus road. Around 20



YOUNG LEARNERS: Children at the workshop on cyanotype printing on Saturday, at Venture Center in NCL Innovation Park.

students from these school learnt many important techniques.

Art conservator S Girikumar introduced the technique of cyanotype printing process to the students. In

the technique, a photograph is taken using chemical processing.

Gayatri Kshirsagar, coordinator for the workshop, said that the technique does not require a camera to take

photographs.

"The aim of the workshop was to introduce various steps like the preparation of chemical solutions, coating of paper, printing and processing, which are involved in creating cyanotype prints.

"It is the traditional way of taking photographs," said Kshirsagar.

She further added that the kids produced photographic prints by using various plant leaves and chemicals. They enjoyed learning this classically alternative and traditional method to produce photographs.

ESG is a volunteer group of scientists from Council of Scientific and Industrial Research - National Chemical Laboratory (CSIR-NCL) and the Indian Institute of Science Education and Research (IISER), Pune.

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25 Nov 2015 – Times of India

Printed from
THE TIMES OF INDIA

Kutuhul 2016: A science quiz competition for school students

Swati Shinde, TNN | Nov 25, 2015, 06.00 PM IST

PUNE: The Exciting Science Group (ESG) will be organising its first-ever inter-school science quiz competition - Kutuhul 2016 on January 9 at Indian Institute of Science Education Research (IISER), Pune. This competition will be open to students of class VIII and class IX in two phases – preliminary round and final round. A statement issued by the Exciting Science Group said that this competition will provide a unique and exciting platform for school students to encourage their thinking skills in scientific concepts.

There is no entry fee for this competition. For guidelines and registration participants can visit <http://www.excitingscience.org/>. Last date for registration is December 24.

The Exciting Science Group is a programme initiated by a volunteer group of scientists from CSIR-NCL and IISER-Pune, and based at Venture Center. This initiative is aimed at conveying the excitement of science and technology to school students. ESG organizes regular programmes to bring the joy and excitement of scientific research to school students.

Exciting Science Group organizes popular science talks at Venture Center to allow school students to interact with eminent practicing researchers. The next popular talk on "present Physics-future devices" on December 13 and "How drones work? The science of automation, on December 19. However, pre-registration is necessary for both the talks, details of which can be obtained from the ESG website (www.excitingscience.org).

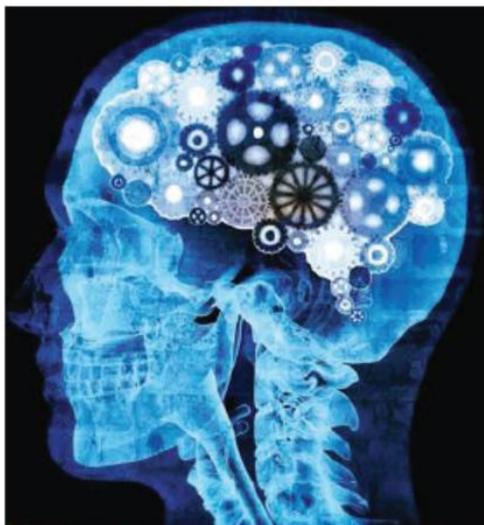
29 Nov 2015 Pune Mirror

Pune Mirror

MUMBAI MIRROR | BANGALORE MIRROR | AHMEDABAD MIRROR

FUNKY SCIENCE

Pune Mirror | Nov 29, 2015, 02.30 AM IST



■ FUNKY SCIENCE

Curious about how the brain works? The Exciting Science Group is organizing a talk on How Activity in the Brain Produces Movements. The talk will be given by Dr Raghav Rajan and will be attended by school kids and adults.

WHERE: Venture Center, Pashan

WHEN: November 29, 10 am

30 Nov 2015 – Sakal Marathi

शालेय विद्यार्थ्यांसाठी 'कुतूहल' प्रश्नमंजूषा

म. टा. प्रतिनिधी, पुणे

पुण्यातील राष्ट्रीय रासायनिक प्रयोगशाळा (एनसीएल), भारतीय विज्ञान शिक्षण आणि संशोधन संस्थेमध्ये (आयसर) कार्यरत वैज्ञानिकांच्या 'दी एक्सायटिंग सायन्स ग्रुप'तर्फे (ईएसजी) शालेय विद्यार्थ्यांसाठी 'कुतूहल २०१६' या आंतरशालेय विज्ञान प्रश्नमंजूषा स्पर्धेचे आयोजन करण्यात आले आहे. नऊ जानेवारी, २०१६ रोजी 'आयसर'च्या आवारात ही स्पर्धा होणार आहे.

याविषयी 'ईएसजी'तर्फे प्रसिद्धीस देण्यात आलेल्या पत्रकातील माहितीनुसार, पहिल्यांदाच या उपक्रमाचे आयोजन करण्यात आले आहे. इयत्ता आठवी आणि नववीच्या विद्यार्थ्यांसाठी दोन टप्प्यांमध्ये ही स्पर्धा घेतली जाणार आहे. कोणतेही प्रवेश शुल्क नसलेल्या या स्पर्धेसाठी नावनोंदणी आवश्यक

आहे. अधिक माहिती <http://www.excitingscience.org> या वेबसाइटवर उपलब्ध करून देण्यात आली आहे. नावनोंदणीची अंतिम मुदत २४ डिसेंबर २०१५ असल्याचेही कळवण्यात आले आहे.

शालेय विद्यार्थ्यांमध्ये विज्ञानविषयीची आवड निर्माण करण्यासाठी विविध उपक्रमांचे आयोजन करणाऱ्या 'ईएसजी'ने येत्या १३ आणि १९ डिसेंबरला विज्ञानविषयक व्याख्यानांचेही आयोजन केले आहे. 'प्रेझेंट फिजिक्स- फ्युचर डिव्हाइसेस' या विषयावर १३ डिसेंबरला, तर 'हाऊ डोन्स वर्क, दी सायन्स ऑफ ऑटोमेशन' या विषयावर १९ डिसेंबरला ही व्याख्याने होणार आहेत. ही व्याख्याने सर्वांसाठी खुली असली, तरी त्यासाठी नावनोंदणी आवश्यक असल्याचेही सांगण्यात आले.

1 Dec 2015 – Sakal Times

ESG to organise inter-school quiz called Kuthal '16

Pune: The Exciting Science Group (ESG) has organised its first ever inter-school science quiz competition - Kuthal 2016 - on January 9 at the Indian Institute of Science Education and Research (IISER) Pune.

This competition will be open to students of classes VIII and IX in two phases - preliminary round and final round and will provide a unique and exciting platform for school students to encourage their thinking skills in scientific concepts. Registrants can enter free of cost.

The ESG is a programme initiated by a volunteer group of scientists from CSIR-NCL and IISER-Pune, based at the Venture Center. This initiative is aimed at transmitting the excitement of science and technology to school students.

ESG arranges for Popular Science Talks at the Venture Center to allow school students to interact with eminent practising researchers. ESG will conduct the next Popular Talk on 'Present Physics-Future Devices' on December 13 and 'How Drones Work? The Science of Automation!' on December 19. Both talks are free for students. However, it is necessary to pre-register. *sr*

INTERESTED?

- For guidelines and registration details, visit <http://www.excitingscience.org/>
- Last date for registration for Kuthal is December 24

13 Jan 2016 – Sakal Times

Vidya Valley wins 'Kutuhul' science quiz

Pune: Shouryan Nikam and Shubham Chury from Vidya Valley School won the 'Kutuhul' 2016 science quiz competition, which was organised by The Exciting Science Group, a programme initiated by a group of scientists from CSIR-NCL and IISER-Pune.

Teams from Vikhe Patil School, Hutchings High Schools, Dr Shamrao Kalmadi High School and Vidya Valley were the finalist.

Arvind Gupta, a toy inventor, felicitated the students on this occasion. The event was sponsored by the Forbes Marshall Foundation, the Praj Foundation and DSM, India. 57

25 Jan 2016 – Sakal Times

Experiments play a key role in discoveries: IIT Kanpur prof



INNOVATIVE: Prof Verma demonstrating an experiment during the talk at NCL on Sunday.

ST CORRESPONDENT
reporters@sakaaltimes.com

Pune: Prof Harish Chandra Verma from IIT Kanpur has said that physical experiments have a big role to play in making scientific discoveries and developing theories.

Verma was addressing a talk titled 'Role of experiments in developing physical theories' to school students as part of the activities or-

ganised by Exciting Science Group (ESG), a volunteer group under the CSIR-National Chemical Laboratory (NCL) and Indian Institute of Science, Education and Research (IISER), Pune.

A total of 140 students from various schools took part in the special talk, which also saw Verma demonstrate various experiments that also saw students' participation.

"It is through simple ex-

periments that any root problem is addressed," Verma said. Verma has specialised in nuclear physics and was here for the monthly popular talk organised for school students, who get an opportunity to interact with scientists and know about their work and way of carrying out scientific researches.

The next talk will be on genes titled 'Where are my genes' on March 20, 2016.