JIGYASA PROGRAMME AT CSIR-IMTECH

The overarching goal of our program is to contribute to nurturing the culture of scientific thinking in children at the school level and in the general public at large. We organize activities for school children and teachers that will increase their interest, and understanding of the scientific world.

In order to inspire and motivate the youth to develop scientific thinking, CSIR-IMTECH has adopted the "catch them young" motto. We have initiated a major program on providing school students with first-hand research experience. We strongly believe that such a program will ignite young minds about scientific research, and inculcate the spirit of scientific thinking in them. We started a summer program on providing school students with first-hand research experience in 2015 and named this program "Jigyasa". Subsequently, as per the mandate given to the scientific community by the Government of India in 2017, CSIR initiated a program to make its laboratories more accessible to school children to promote science in the neighborhood schools under the same program name "Jigyasa". An MOU was signed between CSIR and Kendriya Vidyalaya Sangathan on the 6th of July 2017 with a goal to work together to "harness young minds towards scientific thinking and inculcating creativity… for betterment of the society."

Currently, we are engaging students and teachers from Kendriya Vidyalayas from the Chandigarh region under this "Jigyasa" programme. Our program encompasses the following major modes.

Summer program for school children to have a hands-on experience of scientific research: Since 2015, CSIR-IMTECH has conducted summer camps for KV school students with hands-on research training with tailor-made experimental modules specially designed to inspire young students and provide them a flavor of a career in science. The feedback has been tremendously positive.

Visit to CSIR-IMTECH and institutional tour for school children: As part of Jigyasa, we arrange for visits of school students to CSIR-IMTECH and offer them tours of the institutional facilities. Many school students (>500) from various KV schools have visited IMTECH so far, and have been offered a tour of the Fermentation (BERPDC) facility, the Bioinformatics and Big Data Analytics (BIC) facility, and the Microbial Type Culture Collection and Gene Bank (MTCC) facility. Students from schools in remote areas have benefited through this program.

Teacher training programs to assist teachers with carrying out scientific experiments related to the school curriculum: Under the Jigyasa Program, CSIR-IMTECH has also initiated training programs for teachers with the goal of reaching out to more children via their teachers.

Scientists from CSIR-IMTECH visiting aforementioned schools to deliver popular science lectures: Scientific talks and discussions with added emphasis on Indian Science and scientists is an approach that we are adopting to popularize science in our community. CSIR-IMTECH scientists offer lectures at colleges and schools in an effort to engage students at an early age into understanding the significance of science and technology in society. Lectures are delivered on general topics or on current research trends in microbiology or related areas. An ongoing Jigyasa activity is to conduct such popular lectures for KV school students.

Activities/contests for school children to make science learning fun: We are also organizing various fun activities/contests to kindle interest and make learning science fun.

JIGYASA PROGRAMME DETAILS - APRIL 2018 TO MARCH 2019

Funded by: CSIR-IMTECH, Government of India

Coordinators from 21 March 2018 to 23 May 2018: Dr. Ramya T. N. C. and Dr. Venkata Ramana V. (Sr. Scientists, CSIR-IMTECH)

Jigyasa Programme Committee from 24 May 2018 to 10 December 2018: Dr. Ramya T. N. C. (Chairperson), Dr. D. K. Sahoo, Shri R. Soni, Dr. Alka Rao, Dr. V. K. Bhalla, Dr. Neeru, Dr. Venkata Ramana (Convenor)

Jigyasa Students/Scientist Connect Program Committee from 11 Dec 2018 to 31 Mar 2019: Dr. Ramya T. N. C. (Chairperson), Dr. Beena Krishnan (Member), Dr. V. Venkata Ramana (Member), Dr. S. Kumaran (Human Resource Management Group Coordinator)

1. Executive Summary

CSIR-IMTECH has undertaken programmes under JIGYASA. During 2018-19, a total of **2411** candidates have been reached out to.

S. NO	Model of Engagement	Program Name	Duration in days	Training/Exposure	Student Grade	No. of teachers	No. of student trained			
							No. of KVS Students	No. of State Govt Students	No. of NVS Students	Other schools
1	Summer vacation Programme/ Student Residential Programme	Jigyasa-2018 Summer Research Camp	5	Hands-on training in CSIR-IMTECH laboratories with research projects specifically designed for school students Guided tour of the MTCC facility, Bioinformatics facility (including 3-D facility and 3D printing), and BERPDC facility Quiz competition Popular science lecture titled "Compartmentalization in Eukaryotes and Prokaryotes".	XI	2	26	0	0	0
2	Teachers' visit and	Newly inducted TGT	1	Guided tour of the MTCC facility,	NA	40	0	0	0	0

	tour of facilities	**teachers' induction training**		**Bioinformatics facility (including 3-D facility and 3D printing), BERPDC facility, Electron Microscopy facility** **Overview of scientific research and interactive session with scientists at CSIR-IMTECH**						
3	**Popular Lecture Series / demonstration programme for teachers**	**Teachers' induction training**	**1**	**Scientific lectures delivered by CSIR-IMTECH scientists on the topics, "Advancement in a Biologist's Toolbox for Genetic Manipulations" and "Hair SAXS based interpretation of health".**	**NA**	**40* (same teachers as above, so not counted)**	**0**	**0**	**0**	**0**
4	**Popular Lecture Series / demonstration programme at School**	**Scientist visit to school and popular science lecture/demonstration**	**7**	**Scientific lectures delivered on the topics "CRISPR everywhere- What it means to be living in an age of gene editing", "Antibiotic Resistance: Growing Threat to Humanity",**	**VII, VIII, IX, X, XI, XII**	**29+150**	**577**	**0**	**0**	**500**

				“Role of Nutrition and Exercise in Early Well Being”, “Basics of nanotechnology and its implications”, “Nanotechnology”, “Journey of salt lake bacteria to security inks”, “Antibiotic resistance”, and “Role of proteins in human body”. **Practical demonstration on the topic "isolation of microbes from soil", "understanding and estimation of antimicrobial resistance", and "estimation of antimicrobial activity"**						
5	**Science debate and poster contests**	**Debate and Poster contests for KV students at CSIR-IMTECH**	**1**	**Poster contest on topics “CSIR – where science meets society”, “Bharatiya Vidyan ke badte**	**VII to XII**	**28**	**52**	**0**	**0**	**0**

				kadam" and "Microbes in daily life" **Debate contest on topics "GMO – boon or bane", "Should Government invest on green energy?", and "Is human activity the substantial reason for climate change?"** **Guided tour of the Bioinformatics Centre (BIC) including 3D virtual reality and 3D printing, and BERPDC facilities by scientists in charge of the facilities** **Interaction with scientists and prize distribution.**						
6	**CSIR Foundation Day (26 September)**	**CSIR-IMTECH celebration of CSIR Foundation day - Open day and students' visit**	**1**	**Guided tour of the Microbial Type Culture Collection and Gene Bank (MTCC), Bioinformatics Centre (BIC)**	**>VI**	**9**	**101**	**0**	**0**	**403*** **(college students)**

				including the 3D virtual reality and 3D printing facilities, Animal House, and BERPDC facilities **CSIR Foundation Day Programme including the Foundation Day Lecture titled "Global Healthcare Challenges and Opportunities especially from the developing world perspective" delivered by Prof. Jagat Ram, Director, P.G.I.M.E.R., Chandigarh and CSIR-IMTECH student talent display programme**						
7	**Judging Science Projects**	**Judging science projects**	**1**	**CSIR-IMTECH scientists served as judges to judge exhibits under the theme "Health and Cleanliness" theme at the KVS 46th**	**>VI**	**0**	**~120**	**0**	**0**	**0**

				Jawaharlal Nehru National Science, Mathematics and Environment Exhibition for children .						
8	**Student visit and tour of facilities/ Student Apprenticeship programme**	**CSIR-IMTECH visit**	**6**	**Guided tour of the Microbial Type Culture Collection and Gene Bank (MTCC), Bioinformatics Centre (BIC) including the 3D virtual reality and 3D printing facilities, and BERPDC facilities** **Popular science lecture** **Poster session to explain ongoing research at CSIR-IMTECH**	**>VI**	**22**	**312**	**0**	**0**	**0**
	Grand Total: 2521					**320**	**1188**	**0**	**0**	**903**

1. **Kendriya Vidyalaya Sangathan (KVS) Schools *:**

S.No	Model of Engagement	Program Name	No. of days	Duration		No. of KV Schools	No. of KV students	No. of KV teachers	Regional Office
				From	To				
1	**Summer vacation Programme / Student**	**Jigyasa-2018 Summer Research Camp**	**5**	**7 May 2018**	**11 May 2018**	**7 (KV Faridkot, KV Abohar**	**26**	**2**	**KVS RO Chandigarh**

	Residential Programme					**KV KMS Wala, KV Jallabad, KV 1 Ferozpur, KV 2 Ferozpur, KV Fazilka)**			
2	**Teachers' visit and tour of facilities**	**Teachers' induction visit**	**1**	**18 May 2018**	**18 May 2018**	**40 (KV 1 Ahmedabad, KV HimmatNagar, KV 2 INF JamNagar, KV Cambay ONGC, KV Hazaratpur, KV Lalitpur, KV Aligarh, KV Babina Cantonment, KV Sarsawa, KV 1 Adampur, KV 2 Halwara, KV Raiwala, KV Kashipur, KV NHPC Banbasa, KV JNU New Delhi, KV Paschim Vihar Delhi, KV INA New Delhi, KV 3 Delhi Cantonment, KV BSF Chhawala Delhi, KV Alihal, KV Pinjore, KV Palwal, KV 4 Ambala Cantonment, KV Mandi, KV**	**0**	**40**	**KVS RO Chandigarh**

						Dhana, KV Malanjkhand, KV SECL Dhanpuri, KV Damoh, KV IGNOU Campus Amarkantak, KV Singrauli, KV 2 Akhnoor, KV 2 Srinagar, KV Anantnag, KV Kishtwar, KV 1 Udhampur, KV 1 Chakeri Kanpur, KV JRC Barely, KV 1st shift Rai Barely, KV Lakhimpur Khiri, KV JLA Barely)			
3	**Popular Lecture Series / demonstration programme for teachers**	**Science lectures during training of newly inducted KV teachers delivered by CSIR-IMTECH scientists, Dr. Beena Krishnan and Dr. Ashish on the topics "Advancement in a Biologist's Toolbox for Genetic Manipulations" and "Hair SAXS based interpretation of health", respectively**	**1**	**23 May 2018**	**23 May 2018**	**40* (same schools as above)**	**0**	**40* (same teachers as above)**	**KVS RO Chandigarh**

4	**Popular Lecture Series / demonstration programme at School**	**Scientist lecture at KV Sector 31, Chandigarh delivered by Dr. Amit Tuli on the topic "CRISPR everywhere- What it means to be living in an age of gene editing"**	**1**	**14 Sept 2018**	**14 Sept 2018**	**1 (KV 31 Chandigarh)**	**75**	**5**	**KVS RO Chandigarh**
5	**Student visit and tour of facilities/ Student Apprenticeship programme**	**CSIR-IMTECH visit – Co-organized with 4th India International Science Festival (IISF) 2018**	**1**	**17 Sept 2018**	**17 Sept 2018**	**7 (KV Sector 29 Chandigarh, KV Zirakpur, KV 3BRD Chandigarh, KV High Grounds, KV Sector 31D Chandigarh, KV 47 Chandigarh, KV Dappar)**	**74**	**4**	**KVS RO Chandigarh**
6	**Student visit and tour of facilities/ Student Apprenticeship programme**	**CSIR-IMTECH visit**	**1**	**18 Sept 2018**	**18 Sept 2018**	**2 (KV Jakhoo-Hills Shimla, KV Jutogh Cantonment Shimla)**	**49**	**3**	**KVS RO Gurugram Region**
7	**Student visit and tour of facilities/ Student Apprenticeship programme**	**CSIR-IMTECH visit**	**1**	**19 Sept 2018**	**19 Sept 2018**	**3 (KV 2 Sirsa, KV 4 Ambala, KV 3 Ambala)**	**97**	**8**	**KVS RO Gurugram Region**
8	**Student visit and tour of facilities/ Student Apprenticeship programme**	**CSIR-IMTECH visit**	**1**	**20 Sept 2018**	**20 Sept 2018**	**1 (KV 1 Ambala)**	**43**	**3**	**KVS RO Gurugram Region**

9	**Science debate and poster contests**	**Debate and Poster contests for KV students at CSIR-IMTECH**	**1**	**27 Sept 2018**	**27 Sept 2018**	**32 (KV 4 JRC, KV3 JRC, KV 1 Adanpur, KV Suranussi JRC, KV Zirakpur, KV 4 Jalandhar, KV 1 Halwara, KV Baddawal Cantonment Ludhiana, KV 2 RCF Hussainpur, KV 2 Ferozpur cantonment, KV 47 Chandigarh, KV Bhikhiwind, KV Shikar DBN, KV Set 29 OCF, KV Highgrounds, KV Mohali, KV 1 Amritsar, KV Nabha, KV Mullanpur, KV 4 Pathankot, KV 2 Pathankot, KV 3 Pathankot, KV Nangal Bhur, KV 1 Pathankot, KV 3 Bathinda, KV 5 Bathinda, KV 1 Bathinda, KV SLIET Longowal, KV 1**	**52**	**28**	**KVS RO Chandigarh**

						Patiala, KV 2 Patiala, KV 3BRD Chandigarh, KV 1 Ferozpur cantonment)			
10	**CSIR Foundation Day (26 September)**	**CSIR-IMTECH celebration of CSIR Foundation day - Open day and students' visit**	**1**	**28 Sept 2018**	**28 Sept 2018**	**11 (KV AFS Barnala, KV 1 Bathinda, KV 3 Bathinda, KV 4 Bathinda, KV 5 Bathinda, KV SLIET Longowal, KV 1 RCF Hussainpur Kapurthala, KV 2 RCF Hussainpur Kapurthala, KV Kapurthala Cantonment, KV 3 AFS Bhisiana, KV Ubhawal)**	**101**	**9**	**KVS RO Chandigarh**
11	**Judging Science Projects**	**KVS 46th Jawaharlal Nehru National Science, Mathematics and Environment Exhibition for Children - Dr. Srikrishna Subramanian and Dr. Balvinder Singh served as judges to judge exhibits under the theme "Health and Cleanliness"**	**1**	**19 Dec 2018**	**19 Dec 2018**	**KV schools from Chandigarh and neighboring regions**	**~120**	**0**	**KVS RO Chandigarh**

12	**Student visit and tour of facilities/ Student Apprenticeship programme**	**CSIR-IMTECH visit**	**1**	**30 Jan 2019**	**30 Jan 2019**	**1 (KV GC CRPF Pinjore)**	**49**	**4**	**KVS RO Chandigarh**
13	**Popular Lecture Series / demonstration programme at School**	**Scientific lecture titled "Antibiotic Resistance: Growing Threat to Humanity" delivered by CSIR-IMTECH scientist, Dr. Manishankar Bhattacharyya. Practical demonstration on the topic "isolation of microbes from soil", " understanding and estimation of antimicrobial resistance", and "estimation of antimicrobial activity" by Dr. J. C. Bose, Nitish, Sachin, Ankita and Sandal Deep (Helped by the trainees).**	**1**	**6 Feb 2019**	**6 Feb 2019**	**1 (KV Fatehgarh Sahib, Classes VII, IX, and XI)**	**120**	**~4**	**KVS RO Chandigarh**
14	**Popular Lecture Series / demonstration programme at School**	**Scientist lecture at KV Nangalbhur delivered by Dr. Ashish on the topic "Role of nutrition and exercise in early well being"**	**1**	**8 Feb 2019**	**8 Feb 2019**	**1 (KV Nangalbhur, Class X and XI)**	**~60**	**~4**	**KVS RO Chandigarh**
15	**Popular Lecture Series /**	**Scientist lecture at KV 29**	**1**	**8 Feb**	**8 Feb**	**1 (KV 29 Chandigarh**	**150**	**6**	**KVS RO Chandigarh**

	demonstration programme at School	**Chandigarh by Dr. Raman Parkesh on the topic "Basics of Nanotechnology and its Implications"**		**2019**	**2019**	**, Classes VIII and X)**			
16	**Popular Lecture Series / demonstration programme at School**	**Scientist lecture at KV 1, Patiala delivered by Mr. E. Senthil Prasad on the topic "Journey of salt lake bacteria to security inks"**	**1**	**12 Feb 2019**	**12 Feb 2019**	**1 (KV 1 Patiala, Class XI)**	**72**	**3**	**KVS RO Chandigarh**
17	**Popular Lecture Series / demonstration programme at School**	**Scientist lecture at KV 47B, Chandigarh delivered by Dr. Amit Tuli on the topic "CRISPR Everywhere: What it means to be living in an age of gene editing"**	**1**	**12 Feb 2019**	**12 Feb 2019**	**1 (KV 47B, Chandigarh, Class XII medical and non-medical)**	**~55**	**3**	**KVS RO Chandigarh**
18	**Popular Lecture Series / demonstration programme at School**	**Scientist lecture at KV 2 DMW, Patiala delivered by Dr. Vijayender Bhalla on the topic "Nanotechnology"**	**1**	**12 Feb 2019**	**12 Feb 2019**	**1 (KV 2 DMW Patiala, Class XI/XII science stream)**	**~45**	**4**	**KVS RO Chandigarh**

(*E**xclusively for KVS**)

2. State Government Schools*: None

S. No	**Model of Engagement**	**Program Name**	**No. of days**	**Duration**		**No. of State Govt Schools**	**No. of State Govt. students**	**No. of State Govt. teachers**	**Name of State Government**
				From	**To**				

(*E**xclusively for State Govt/Municipal Schools**)

3. Navodaya Vidyalaya Samiti(NVS) Schools*: None

S. No	Model of Engagement	Program Name	No. of days	Duration		No. of NVS Schools	No. of NVS. students	No. of NVS teachers	Name of State Government
				From	To				

(*E**xclusively for NVS Schools**)

4. Other Schools*:

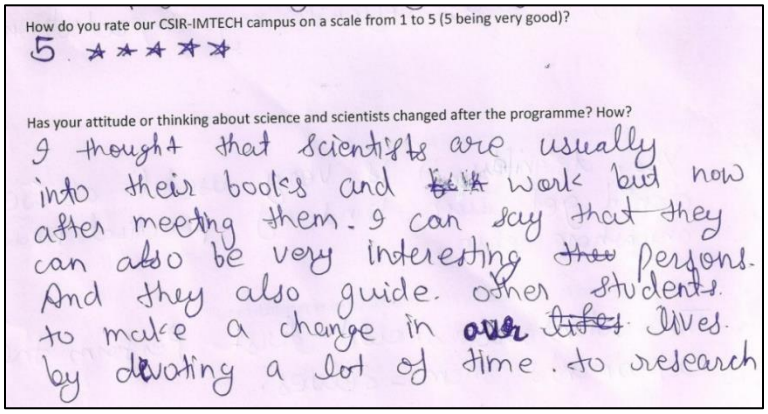
S. No	Model of Engagement	Program Name	No. of days	Duration		No. of Schools	No. of students	No. of teachers	Name of State Government	Remarks
				From	To					
1	**CSIR Foundation Day (26 September)**	**CSIR-IMTECH celebration of CSIR Foundation day - Open day and students' visit**	**1**	**28 Sept 2018**	**28 Sept 2018**	**7 colleges (DAV college Sector 10 Chandigarh, Lovely Professional University Phagwara, Chitkara University Chandigarh, Chandigarh University, Khalsa College Patiala, Chandigarh Group of Colleges Landran, Sant Baba Bhag University Jalandhar)**	**403**	**Not recorded**	**Chandigarh, Punjab**	**Guided tour of the Microbial Type Culture Collection and Gene Bank (MTCC), Bioinformatics Centre (BIC) including the 3D virtual reality and 3D printing facilities, Animal House, and BERPDC facilities by scientists in charge of the facilities**
2	**Popular Lecture Series /**	**Scientist-student connect**	**1**	**20 Feb**	**20 Feb**	**Number of schools**	**500**	**150**	**Punjab**	**Scientist-student connect**

	demonstration programme	**meet at Muktsar**		**2019**	**2019**	**not determined**				**meet organized at District Red Cross Complex as part of "Disha" career guidance drive in Muktsar, Punjab**

Overall Feedback of Jigyasa program from students

We received positive feedback of our activities conducted under the Jiygasa 2018-2019 programme. Some snippets of feedback collected from students who participated in the Jiygasa 2018 Summer Research Camp at CSIR-IMTECH are provided below. The overall feedback indicated that students enjoyed the Summer Research Camp and the CSIR-IMTECH campus very much and several students wanted it extended to a longer duration.

"Has your attitude or thinking about science and scientists changed after the programme? How?"

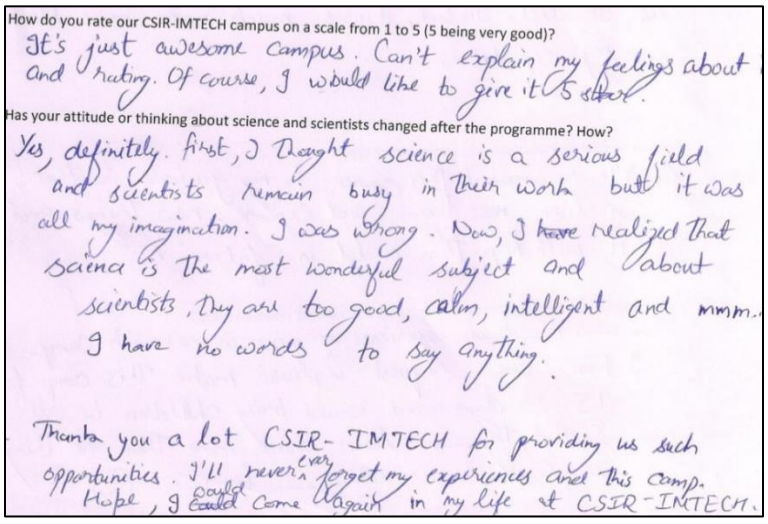


How do you rate our CSIR-IMTECH campus on a scale from 1 to 5 (5 being very good)?

5. ★★★★★

Has your attitude or thinking about science and scientists changed after the programme? How?

I thought that scientists are usually into their books and ~~[illegible]~~ work but now after meeting them. I can say that they can also be very interesting ~~thee~~ persons. And they also guide. other students. to make a change in our ~~lifes~~ lives. by devoting a lot of time. to research



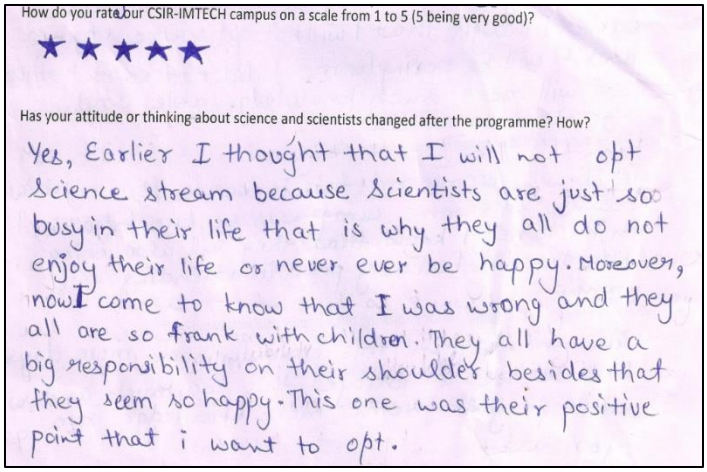
How do you rate our CSIR-IMTECH campus on a scale from 1 to 5 (5 being very good)?

It's just awesome campus. Can't explain my feelings about and rating. Of course, I would like to give it 5 star.

Has your attitude or thinking about science and scientists changed after the programme? How?

Yes, definitely. first, I thought science is a serious field and scientists remain busy in their work but it was all my imagination. I was wrong. Now, I ~~have~~ realized that science is the most wonderful subject and about scientists, they are too good, calm, intelligent and mmm.. I have no words to say anything.

Thank you a lot CSIR-IMTECH for providing us such opportunities. I'll never ever forget my experiences and this camp. Hope, I ~~could~~ would come again in my life at CSIR-IMTECH.

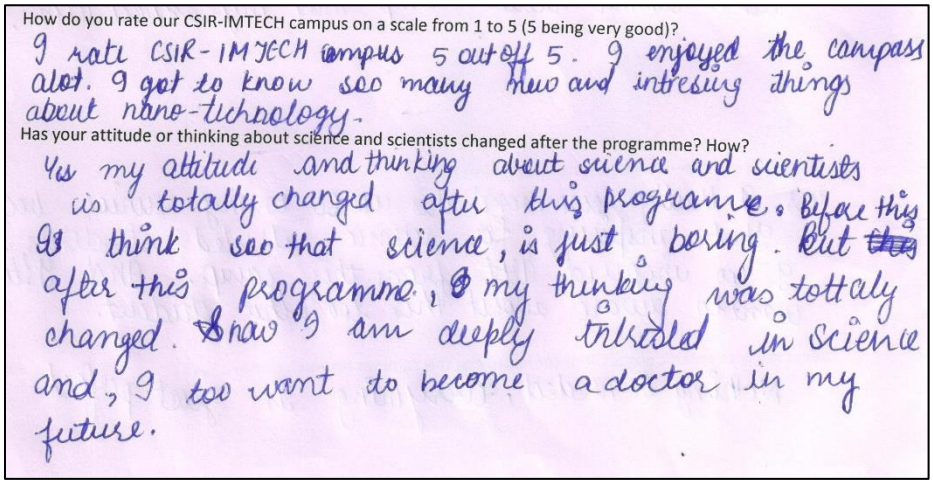


How do you rate our CSIR-IMTECH campus on a scale from 1 to 5 (5 being very good)?

★★★★★

Has your attitude or thinking about science and scientists changed after the programme? How?

Yes, Earlier I thought that I will not opt Science stream because Scientists are just so busy in their life that is why they all do not enjoy their life or never ever be happy. Moreover, now I come to know that I was wrong and they all are so frank with children. They all have a big responsibility on their shoulder besides that they seem so happy. This one was their positive point that i want to opt.



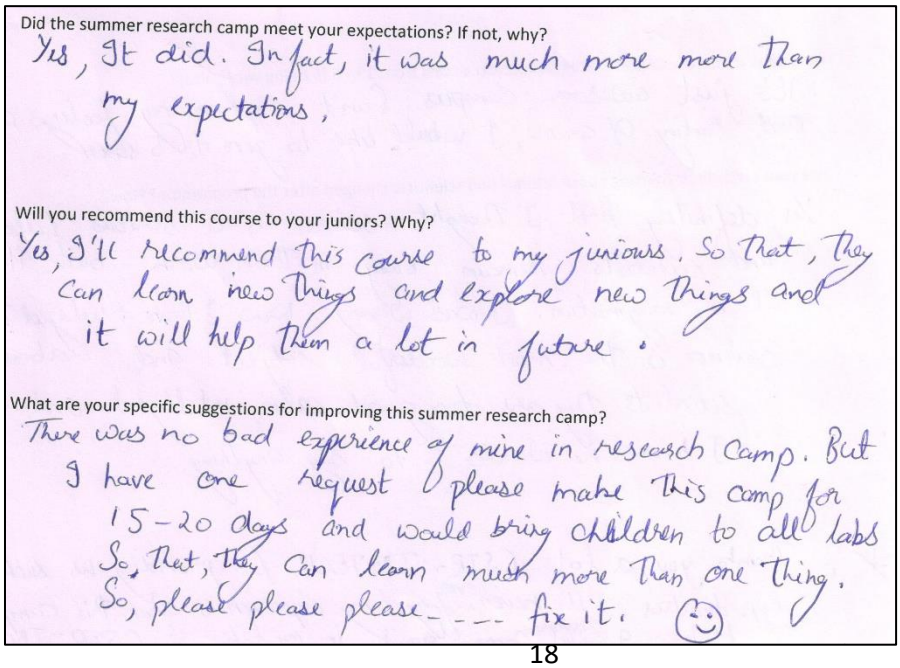
How do you rate our CSIR-IMTECH campus on a scale from 1 to 5 (5 being very good)?

9 rate CSIR-IMTECH campus 5 out of 5. 9 enjoyed the campus alot. 9 got to know soo many new and intresing things about nano-technology.

Has your attitude or thinking about science and scientists changed after the programme? How?

Yes my attitude and thinking about science and scientists is totally changed after this programme. Before this 9 think soo that science, is just boring. But ~~this~~ after this programme, 9 my thinking was totaly changed. Now 9 am deeply intrested in science and, 9 too want to become a doctor in my future.

"Did the summer research camp meet your expectations? If not, why? Will you recommend this course to your juniors? Why? What are your specific suggestions for improving this summer research camp?"



Did the summer research camp meet your expectations? If not, why?

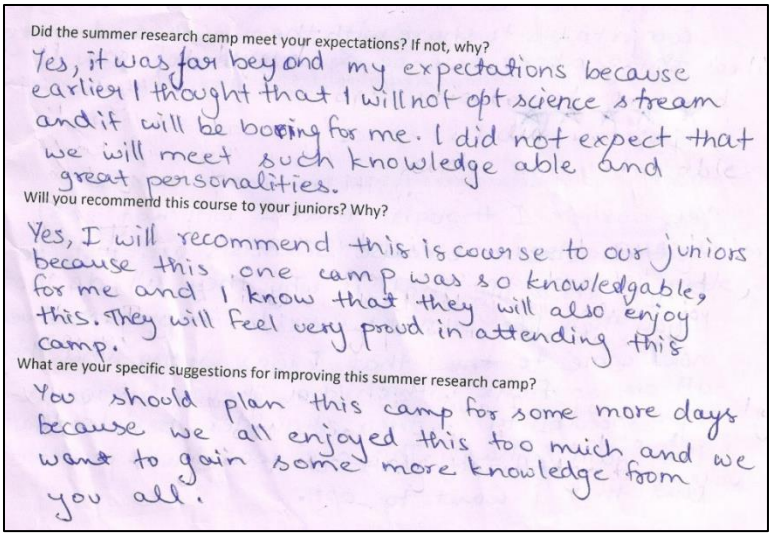
Yes, It did. In fact, it was much more more than my expectations.

Will you recommend this course to your juniors? Why?

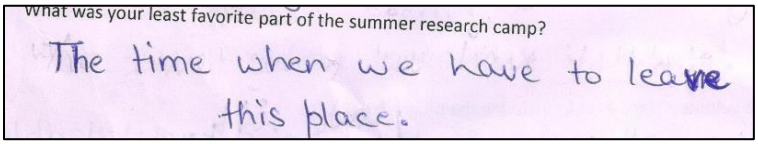
Yes, I'll recommend this course to my juniours, So that, They can learn new things and explore new things and it will help them a lot in future.

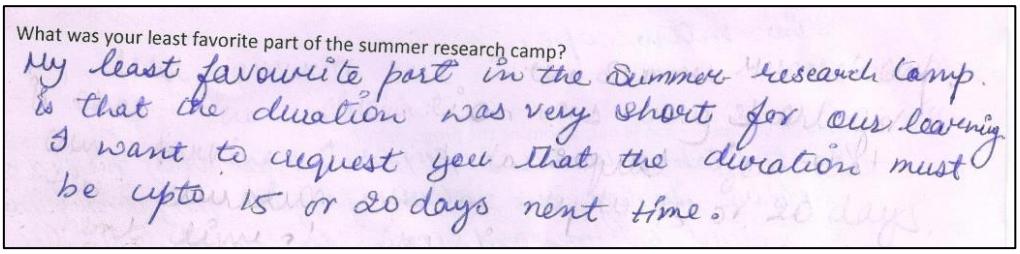
What are your specific suggestions for improving this summer research camp?

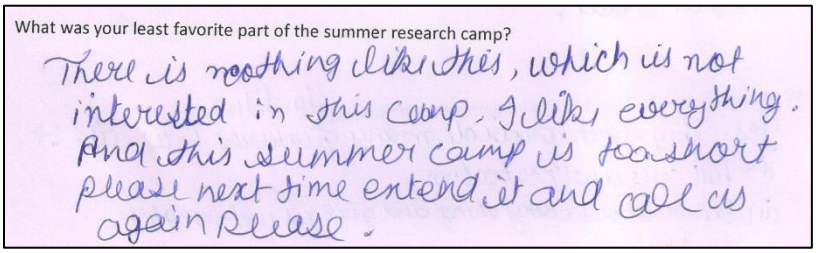
There was no bad experience of mine in research camp. But I have one request please make this camp for 15-20 days and would bring children to all labs So, that, they can learn much more than one thing. So, please please please---- fix it. ☺


Did the summer research camp meet your expectations? If not, why?
Yes, it was far beyond my expectations because earlier I thought that I will not opt science stream and it will be boring for me. I did not expect that we will meet such knowledge able and great personalities.
Will you recommend this course to your juniors? Why?
Yes, I will recommend this is course to our juniors because this one camp was so knowledgable, for me and I know that they will also enjoy this. They will feel very proud in attending this camp.
What are your specific suggestions for improving this summer research camp?
You should plan this camp for some more days because we all enjoyed this too much and we want to gain some more knowledge from you all.

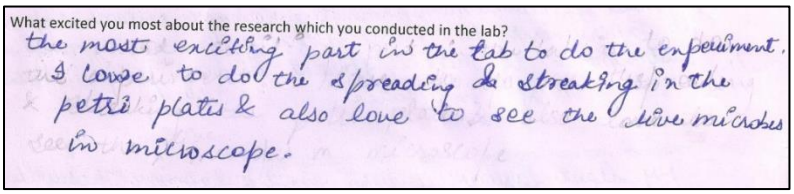
"What was your least favorite part of the summer research camp?"

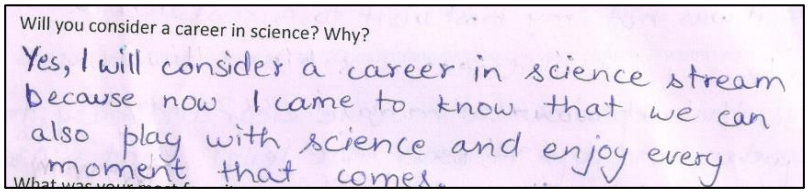

What was your least favorite part of the summer research camp?
The time when we have to leave this place.


What was your least favorite part of the summer research camp?
My least favourite part in the Summer research camp. is that the duration was very short for our learning I want to request you that the duration must be upto 15 or 20 days next time.


What was your least favorite part of the summer research camp?
There is nothing like this, which is not interested in this camp. I like everything. And this summer camp is too short please next time extend it and call us again Please.

"Will you consider a career in science? Why? What excited you most about the research which you conducted in the lab?"


What excited you most about the research which you conducted in the lab?
the most exciting part in the lab to do the experiment. I love to do the spreading & streaking in the petri plates & also love to see the live microbes in microscope.


Will you consider a career in science? Why?
Yes, I will consider a career in science stream because now I came to know that we can also play with science and enjoy every moment that comes.

Event-wise program list

Date	Program Name	No. of days	No. of KV Schools	No. of students	No. of teachers
7-11 May 2018	Jigyasa-2018 Summer Research Camp	5	**7** (KV Faridkot, KV Abohar KV KMS Wala, KV Jallabad, KV 1 Ferozpur, KV 2 Ferozpur, KV Fazilka)	**26**	**2**
18 May 2018	Teachers' induction visit	1	**40** (KV 1 Ahmedabad, KV HimmatNagar, KV 2 INF JamNagar, KV Cambay ONGC, KV Hazaratpur, KV Lalitpur, KV Aligarh, KV Babina Cantonment, KV Sarsawa, KV 1 Adampur, KV 2 Halwara, KV Raiwala, KV Kashipur, KV NHPC Banbasa, KV JNU New Delhi, KV Paschim Vihar Delhi, KV INA New Delhi, KV 3 Delhi Cantonment, KV BSF Chhawala Delhi, KV Alihal, KV Pinjore, KV Palwal, KV 4 Ambala Cantonment, KV Mandi, KV Dhana, KV Malanjkhand, KV SECL Dhanpuri, KV Damoh, KV IGNOU Campus Amarkantak, KV Singrauli, KV 2 Akhnoor, KV 2 Srinagar, KV Anantnag, KV Kishtwar, KV 1 Udhampur, KV 1 Chakeri Kanpur, KV JRC Barely, KV 1st shift Rai Barely, KV Lakhimpur Khiri, KV JLA Barely)	**0**	**40**
23 May 2018	Science lectures during training of newly inducted KV teachers delivered by CSIR-IMTECH scientists, Dr. Beena Krishnan and Dr. Ashish on the topics "Advancement in a Biologist's Toolbox for Genetic Manipulations" and "Hair SAXS based interpretation of health", respectively	1	**40** (KV 1 Ahmedabad, KV HimmatNagar, KV 2 INF JamNagar, KV Cambay ONGC, KV Hazaratpur, KV Lalitpur, KV Aligarh, KV Babina Cantonment, KV Sarsawa, KV 1 Adampur, KV 2 Halwara, KV Raiwala, KV Kashipur, KV NHPC Banbasa, KV JNU New Delhi, KV Paschim Vihar Delhi, KV INA New Delhi, KV 3 Delhi Cantonment, KV BSF Chhawala Delhi, KV Alihal, KV Pinjore, KV Palwal, KV 4 Ambala Cantonment, KV Mandi, KV Dhana, KV Malanjkhand, KV SECL	**0**	**40**

			Dhanpuri, KV Damoh, KV IGNOU Campus Amarkantak, KV Singrauli, KV 2 Akhnoor, KV 2 Srinagar, KV Anantnag, KV Kishtwar, KV 1 Udhampur, KV 1 Chakeri Kanpur, KV JRC Barely, KV 1st shift Rai Barely, KV Lakhimpur Khiri, KV JLA Barely)		
14 Sept 2018	Scientist lecture at KV Sector 31, Chandigarh delivered by Dr. Amit Tuli on the topic "CRISPR everywhere-What it means to be living in an age of gene editing"	1	**1** (KV 31 Chandigarh)	**75**	**5**
17 Sept 2018	CSIR-IMTECH visit – Co-organized with 4th India International Science Festival (IISF) 2018	1	**7** (KV Sector 29 Chandigarh, KV Zirakpur, KV 3BRD Chandigarh, KV High Grounds, KV Sector 31D Chandigarh, KV 47 Chandigarh, KV Dappar)	**74**	**4**
18 Sept 2018	CSIR-IMTECH visit	1	**2** (KV Jakhoo-Hills Shimla, KV Jutogh Cantonment Shimla)	**49**	**3**
19 Sept 2018	CSIR-IMTECH visit	1	**3** (KV 2 Sirsa, KV 4 Ambala, KV 3 Ambala)	**97**	**8**
20 Sept 2018	CSIR-IMTECH visit	1	**1** (KV 1 Ambala)	**43**	**3**
27 Sept 2018	Debate and Poster contests for KV students at CSIR-IMTECH	1	**32** (KV 4 JRC, KV3 JRC, KV 1 Adanpur, KV Suranussi JRC, KV Zirakpur, KV 4 Jalandhar, KV 1 Halwara, KV Baddawal Cantonment Ludhiana, KV 2 RCF Hussainpur, KV 2 Ferozpur cantonment, KV 47 Chandigarh, KV Bhikhiwind, KV Shikar DBN, KV Set 29 OCF, KV Highgrounds, KV Mohali, KV 1 Amritsar, KV Nabha, KV Mullanpur, KV 4 Pathankot, KV 2 Pathankot, KV 3 Pathankot, KV Nangal Bhur, KV 1 Pathankot, KV 3 Bathinda, KV 5 Bathinda, KV 1 Bathinda, KV SLIET Longowal, KV 1 Patiala, KV 2 Patiala, KV 3BRD Chandigarh, KV 1 Ferozpur cantonment)	**52**	**28**
28 Sept 2018	CSIR-IMTECH celebration of CSIR Foundation day -	1	**11** (KV AFS Barnala, KV 1 Bathinda, KV 3 Bathinda, KV 4	**101**	**9**

	Open day and students' visit		Bathinda, KV 5 Bathinda, KV SLIET Longowal, KV 1 RCF Hussainpur Kapurthala, KV 2 RCF Hussainpur Kapurthala, KV Kapurthala Cantonment, KV 3 AFS Bhisiana, KV Ubhawal)		
19 Dec 2018	KVS 46th Jawaharlal Nehru National Science, Mathematics and Environment Exhibition for Children - Dr. Srikrishna Subramanian and Dr. Balvinder Singh served as judges to judge exhibits under the theme "Health and Cleanliness"	1	KV schools from Chandigarh and neighboring regions	**~120**	**0**
30 Jan 2019	CSIR-IMTECH visit	1	**1** (KV GC CRPF Pinjore)	**49**	**4**
6 Feb 2019	Scientific lecture titled "Antibiotic Resistance: Growing Threat to Humanity" delivered by CSIR-IMTECH scientist, Dr. Manishankar Bhattacharyya. Practical demonstration on the topic "isolation of microbes from soil", " understanding and estimation of antimicrobial resistance", and "estimation of antimicrobial activity" by Dr. J. C. Bose, Nitish, Sachin, Ankita and Sandal Deep (Helped by the trainees).	1	**1** (KV Fatehgarh Sahib, Classes VII, IX, and XI)	**120**	**~4**
8 Feb 2019	Scientist lecture at KV Nangalbhur delivered by Dr. Ashish on the topic "Role of nutrition and exercise in early well being"	1	**1** (KV Nangalbhur, Class X and XI)	**~60**	**~4**
8 Feb 2019	Scientist lecture at KV 29 Chandigarh by Dr. Raman Parkesh on the topic "Basics of Nanotechnology and its Implications"	1	**1** (KV 29 Chandigarh, Classes VIII and X)	**150**	**6**
12 Feb 2019	Scientist lecture at KV 1, Patiala delivered by Mr. E.	1	**1**	**72**	**3**

	Senthil Prasad on the topic "Journey of salt lake bacteria to security inks"		(KV 1 Patiala, Class XI)		
12 Feb 2019	Scientist lecture at KV 47B, Chandigarh delivered by Dr. Amit Tuli on the topic "CRISPR Everywhere: What it means to be living in an age of gene editing"	1	**1** (KV 47B, Chandigarh, Class XII medical and non-medical)	**~55**	**3**
12 Feb 2019	Scientist lecture at KV 2 DMW, Patiala delivered by Dr. Vijayender Bhalla on the topic "Nanotechnology"	1	**1** (KV 2 DMW Patiala, Class XI/XII science stream)	**~45**	**4**

PROGRAMME-WISE DETAILED ACTIVITIES CARRIED OUT:

Jigyasa-2018 Summer research camp – 7th to 11th May 2018

The summer research camp is the flagship activity of the Jigyasa programme at CSIR-IMTECH. This activity provides a hands-on research experience to school children, with research projects specifically designed keeping in mind the expertise of the host laboratory and the science exposure level of the participating students.
The salient features of the Jigyasa-2018 summer research camp are tabulated below.

Participants:	26 students of class XI from KV schools of Chandigarh region
Venue:	CSIR-IMTECH
Duration:	5 days
	7th May - 11th May 2018
Name of school(s) from where students participated	KV Faridkot KV Abohar KV KMS Wala KV Jallabad KV 1 Ferozpur KV 2 Ferozpur KV Fazilka
Students from which standard attended	Class XI
No. of school teachers involved	2 teachers from KV Abohar and KV Faridkot
Activities organized	Hands-on training in CSIR-IMTECH laboratories with research projects specifically designed for school students Guided tour of the MTCC facility, Bioinformatics facility (including 3-D facility and 3D printing), and BERPDC facility Quiz competition Popular science lecture titled "Compartmentalization in Eukaryotes and Prokaryotes" by Dr. Sharmistha Sinha, INST Mohali.

The KV schools and students participating in this programme were selected by the KVS Chandigarh regional office in association with the respective schools. For the hands-on research experience, 13 host labs from CSIR-IMTECH participated. Two children were hosted per lab and experimental modules were specifically designed for this programme.
This was a five-day programme. On the first day, the children were given an introduction of CSIR and IMTECH, and a lab safety briefing and shown around the campus before proceeding to their respective host labs. The students did their experimental modules in their host labs under the guidance of their mentor and volunteers that day and the next three days. On the final day of the programme, there was a tour of the institute facilities (MTCC, BERPDC, and BIC including the 3D virtual reality and 3D printing facilities), a science quiz for the children, and a concluding session with a popular science lecture titled "Compartmentalization in Eukaryotes and Prokaryotes" by guest speaker, Dr. Sharmistha Sinha from INST Mohali and distribution of participation

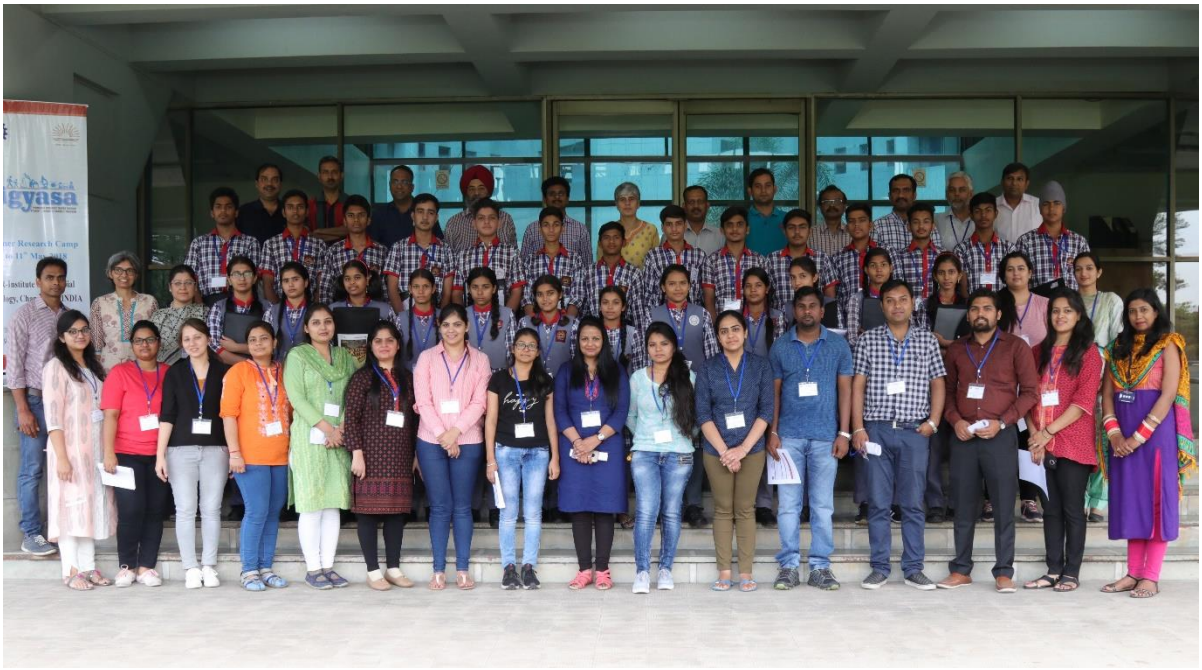
certificates. The children shared their experience during the concluding session and also handed in research reports and feedback forms. That the programme was a huge success was evident from their feedback and request for an extended program for the next Jigyasa summer research camp.

The detailed programme schedule was as follows.

7th May 2018 (Day 1)
09:00 am - 09:30 am – Kendriya Vidyalaya school students arrive at CSIR-IMTECH; distribution of registration material after marking attendance
09:30 am - 10:00 am – Welcome address by the Director, CSIR-IMTECH
10:00 am - 10.20 am – Introduction of participants
10:20 am - 10:30 am – Group photograph (with volunteers and PIs of participating labs)
10:30 am - 11:00 am – High Tea (with volunteers and PIs of participating labs)
11:00 am - 11:30 am – Orientation lecture and lab safety briefing by Dr. Ashwani Kumar
11:30 am - 11:45 am – Institute familiarizing tour (taking school students around the institute to show them locations like cafeteria, labs etc.)
11:45 am - 01:30 pm – Lab work (volunteers from the participating labs escort school students to their respective labs)
01:30 pm - 02:00 pm – Lunch at cafeteria (with volunteers from participating labs)
02:00 pm - 04:00 pm – Lab work
04:00 pm - 04:30 pm – Tea break (with volunteers from participating labs) and school students leave
8th May 2018 – 10th May 2018 (Days 2 - 4)
09:15 am - 09:30 am – School students arrive at CSIR-IMTECH and volunteers from respective labs bring them to the lab after marking attendance
09:30 am - 11:00 am – Lab work
11:00 am - 11:30 am – Tea break (with volunteers from participating labs)
11:30 am - 01:30 pm – Lab work
01:30 pm - 02:00 pm – Lunch at cafeteria (with volunteers from participating labs)
02:00 pm - 04:00 pm – Lab work
04:00 pm - 04:30 pm – Tea break (with volunteers from participating labs) and school students leave
11th May 2018 (Day 5, final day)
09:00 am - 10:30 am – Quiz competition for KV school students
10:30 am - 01:30 pm – Tour of facilities coordinated by Mr. Kailash Bhamare
10:30 am - 11:00 am – Tour of BERPDC facility
11:00 am - 11:30 am – Tea break
11:30 am - 12:30 pm – Tour of 3-D facility
12:30 pm - 01:30 pm – Tour of MTCC facility
01:30 pm – 02:00 pm – Lunch at cafeteria (with volunteers and PIs of participating labs)
Concluding programme **(Guests of honor: Dr. Sharmistha Sinha from Institute of Nano Science and Technology, Mohali, Deputy Commissioner and Assistant Commissioners of Kendriya Vidyalaya Sangathan Regional Office Chandigarh, and Principals of participating KV schools)**
02:00 pm - 03:00 pm – Popular Science Lecture titled "*Compartmentalization in Eukaryotes and Prokaryotes*" by Dr. Sharmistha Sinha
03:00 pm - 03:45 pm – Feedback, distribution of participation certificates, closing note
03:45 pm - 04:00 pm – High tea and school students leave

Some snapshots of the Jigyasa 2018 summer research camp follow below.

Student participants of Jigyasa 2018 Summer Research Camp with mentors



Glimpses of activities held during the Jigyasa 2018 Summer Research Camp

IMTECH
09.05.2018 14:41

09.05.2018 14:32

09.05.2018 14:19

09.05.2018 11:36

IMTECH
09.05.2018 10:09

Teachers' induction visit:

A tour of institutional facilities at CSIR-IMTECH was arranged on 18th May 2018 for 40 newly inducted Kendriya Vidyalaya teachers attending their induction training programme at Kendriya Vidyalaya Sangathan Regional Office, Chandigarh. The teachers were TGT teachers from 40 Kendriya Vidyalaya schools from different parts of India. They were given a guided tour of the Microbial Type Culture Collection and Gene Bank (MTCC), Bioinformatics Centre (BIC) including the 3D virtual reality and 3D printing facilities, BERPDC and Electron microscopy facilities by scientists in charge of the facilities. An interactive session with the Director, CSIR-IMTECH, Dr. Anil Koul, was also arranged. The Director gave an overview of the ongoing research at CSIR-IMTECH and also addressed questions from the audience on various topics.

Participants:	40 Newly inducted KV TGT teachers from 40 KV schools (KV 1 Ahmedabad, KV HimmatNagar, KV 2 INF JamNagar, KV Cambay ONGC, KV Hazaratpur, KV Lalitpur, KV Aligarh, KV Babina Cantonment, KV Sarsawa, KV 1 Adampur, KV 2 Halwara, KV Raiwala, KV Kashipur, KV NHPC Banbasa, KV JNU New Delhi, KV Paschim Vihar Delhi, KV INA New Delhi, KV 3 Delhi Cantonment, KV BSF Chhawala Delhi, KV Alihal, KV Pinjore, KV Palwal, KV 4 Ambala Cantonment, KV Mandi, KV Dhana, KV Malanjkhand, KV SECL Dhanpuri, KV Damoh, KV IGNOU Campus Amarkantak, KV Singrauli, KV 2 Akhnoor, KV 2 Srinagar, KV Anantnag, KV Kishtwar, KV 1 Udhampur, KV 1 Chakeri Kanpur, KV JRC Barely, KV 1st shift Rai Barely, KV Lakhimpur Khiri, KV JLA Barely)
Venue:	CSIR-IMTECH
Duration:	18th May 2018
Activity organized	Guided tour of the MTCC facility, Bioinformatics facility (including 3-D facility and 3D printing), BERPDC facility, Electron Microscopy facility Overview of scientific research and interactive session with the Director, CSIR-IMTECH

Some photos of the event follow.

Newly inducted teachers during their visit at CSIR-IMTECH

Science lectures during training of newly inducted KV teachers:

CSIR-IMTECH scientists, Dr. Beena Krishnan and Dr. Ashish delivered lectures to science teachers during the training of newly inducted TGT teachers from various Kendriya Vidyalaya schools at the Kendriya Vidyalaya Sangathan Regional Office, Chandigarh. Dr Beena Krishnan delivered a lecture titled "Advancement in a Biologist's Toolbox for Genetic Manipulations" and Dr. Ashish delivered a lecture on the topic "Hair SAXS based interpretation of health".

Participants:	40 Newly inducted KV TGT teachers from 40 KV schools (KV 1 Ahmedabad, KV HimmatNagar, KV 2 INF JamNagar, KV Cambay ONGC, KV Hazaratpur, KV Lalitpur, KV Aligarh, KV Babina Cantonment, KV Sarsawa, KV 1 Adampur, KV 2 Halwara, KV Raiwala, KV Kashipur, KV NHPC Banbasa, KV JNU New Delhi, KV Paschim Vihar Delhi, KV INA New Delhi, KV 3 Delhi Cantonment, KV BSF Chhawala Delhi, KV Alihal, KV Pinjore, KV Palwal, KV 4 Ambala Cantonment, KV Mandi, KV Dhana, KV Malanjkhand, KV SECL Dhanpuri, KV Damoh, KV IGNOU Campus Amarkantak, KV Singrauli, KV 2 Akhnoor, KV 2 Srinagar, KV Anantnag, KV Kishtwar, KV 1 Udhampur, KV 1 Chakeri Kanpur, KV JRC Barely, KV 1st shift Rai Barely, KV Lakhimpur Khiri, KV JLA Barely)
Venue:	KVS Regional Office, Sector 29 Chandigarh
Duration:	23rd May 2018
Activity organized	Scientific lectures delivered by CSIR-IMTECH scientists. Dr. Beena Krishnan delivered a lecture titled "Advancement in a Biologist's Toolbox for Genetic Manipulations" Dr. Ashish delivered a lecture titled "Hair SAXS based interpretation of health"

Some photos of the event follow.

Dr. Beena Krishnan delivering a lecture titled "Advancement in a Biologist's Toolbox for Genetic Manipulations" to TGT teachers at KVS Regional Office, Chandigarh

Dr. Ashish delivering a lecture titled "Hair SAXS based interpretation of health" to TGT teachers at KVS Regional Office, Chandigarh

Scientist lectures

Scientist lecture at KV Sector 31, Chandigarh:

CSIR-IMTECH scientist, Dr. Amit Tuli gave a lecture on the topic, "CRISPR everywhere-What it means to be living in an age of gene editing" to students in KV Sector-31, Chandigarh on 14th September 2018 as part of the Jigyasa programme.

Participants:	75 students of class XI/XII and 5 teachers
Venue:	KV 31, Chandigarh
Duration:	14th September 2018
Activity organized	Scientific lecture titled "CRISPR everywhere-What it means to be living in an age of gene editing" delivered by CSIR-IMTECH scientist, Dr. Amit Tuli

A snapshot of the event follows below.

Dr. Amit Tuli giving a lecture to students in KV Sector-31, Chandigarh

Scientist lecture at KV Fatehgarh Sahib:

CSIR-IMTECH scientist, Dr. Manishankar Bhattacharyya gave a lecture on the topic, “Scientific lecture titled “Antibiotic Resistance: Growing Threat to Humanity” delivered by CSIR-IMTECH scientist, Dr. Manishankar Bhattacharyya. Practical demonstration on the topic "isolation of microbes from soil", " understanding and estimation of antimicrobial resistance", and "estimation of antimicrobial activity" by Dr. J. C. Bose, Nitish, Sachin, Ankita and Sandal Deep (Assisted by trainees, Manshi Vij, Mouli Chatterjee, and Divya Sharma).

Participants:	~120 students and teachers of classes VII, IX and XI
Venue:	KV Fatehgarh Sahib
Duration:	6th February 2019
Activity organized	Scientific lecture titled “Antibiotic Resistance: Growing Threat to Humanity” delivered by CSIR-IMTECH scientist, Dr. Manishankar Bhattacharyya. Practical demonstration on the topic "isolation of microbes from soil", " understanding and estimation of antimicrobial resistance", and "estimation of antimicrobial activity" by Dr. J. C. Bose, Nitish, Sachin, Ankita and Sandal Deep (Assisted by trainees, Manshi Vij, Mouli Chatterjee, and Divya Sharma).

A few snapshots of the event follow below.

Scientist lecture at KV Nangalbhur:

CSIR-IMTECH scientist, Dr. Ashish gave a lecture on the topic, "Role of Nutrition and Exercise in Early Well Being" to students in KV Nangalbhur, on 8th February 2019 as part of the Jigyasa programme.

Participants:	~60 students of class X and XI and 3-5 teachers
Venue:	KV Nangalbhur
Duration:	8th February 2019
Activity organized	Scientific lecture titled "Role of Nutrition and Exercise in Early Well Being" delivered by CSIR-IMTECH scientist, Dr. Ashish

A few snapshots of the event follow below.

Scientist lecture at KV Sector 29, Chandigarh:

CSIR-IMTECH scientist, Dr. Raman Parkesh gave a lecture on the topic, "Basics of nanotechnology and its implications" to students in KV Sector-29, Chandigarh on 8th February 2019 as part of the Jigyasa programme.

Participants:	150 students of class VIII and X and 6 teachers
Venue:	KV 29, Chandigarh
Duration:	8th February 2019
Activity organized	Scientific lecture titled "Basics of nanotechnology and its implications" delivered by CSIR-IMTECH scientist, Dr. Raman Parkesh

A few snapshots of the event follow below.

Scientist lecture at KV Sector 47B, Chandigarh:

CSIR-IMTECH scientist, Dr. Amit Tuli gave a lecture on the topic, "CRISPR everywhere-What it means to be living in an age of gene editing" to students in KV Sector-47B, Chandigarh on 12th February 2019 as part of the Jigyasa programme.

Participants:	50-60 students of class XII (medical and non-medical) and 3 teachers
Venue:	KV 47B, Chandigarh
Duration:	12th February 2019
Activity organized	Scientific lecture titled "CRISPR everywhere-What it means to be living in an age of gene editing" delivered by CSIR-IMTECH scientist, Dr. Amit Tuli

A few snapshots of the event follow below.

Dr. Amit Tuli giving a lecture to students in KV Sector-47B, Chandigarh

Scientist lecture at KV 2 DMW Patiala:

CSIR-IMTECH scientist, Dr. Vijayender Bhalla gave a lecture on the topic, "Nanotechnology" to students in KV 2 DMW Patiala on 12th February 2019 as part of the Jigyasa programme.

Participants:	40-50 students of class XI/XII (science stream) and 4 teachers
Venue:	KV 2 DMW, Patiala
Duration:	12th February 2019
Activity organized	Scientific lecture titled "Nanotechnology" delivered by CSIR-IMTECH scientist, Dr. Vijayender Bhalla

A few snapshots of the event follow below.

Scientist lecture at KV 1, Patiala:

CSIR-IMTECH scientist, Mr. E. Senthil Prasad gave a lecture on the topic, "Journey of salt lake bacteria to security inks" to students in KV 3, Patiala on 12th February 2019 as part of the Jigyasa programme.

Participants:	72 students of class XI and 3 teachers
Venue:	KV 3, Patiala
Duration:	12th February 2019
Activity organized	Scientific lecture titled "Journey of salt lake bacteria to security inks" delivered by CSIR-IMTECH scientist, Mr. E. Senthil Prasad

Snapshots of the event follow below.

CSIR-IMTECH visits

CSIR-IMTECH visit on 17th September 2018 – Co-organized with 4th India International Science Festival (IISF) 2018:

A visit to CSIR-IMTECH by 74 students and their accompanying teachers from 7 KV schools (KV Sector 29 Chandigarh, KV Zirakpur, KV 3BRD Chandigarh, KV High Grounds, KV Sector 31D Chandigarh, KV 47 Chandigarh, KV Dappar) was arranged on 17th September 2018 as part of Jigyasa programme as well as the outreach programme for promotion of India International Science Festival (IISF) 2018.

The students were given a guided tour of the Microbial Type Culture Collection and Gene Bank (MTCC), Bioinformatics Centre (BIC) including the 3D virtual reality and 3D printing facilities, and BERPDC facilities by scientists in charge of the facilities. In addition, there was a poster session to explain ongoing research by CSIR-IMTECH scientists, and a popular science lecture by Dr. Purnananda Guptasharma, Professor of Biological Sciences and Dean, Research and Development at IISER Mohali, arranged specially for this event.

Participants:	74 students and 4 teachers from 7 KV schools in Chandigarh region (KV Sector 29 Chandigarh, KV Zirakpur, KV 3BRD Chandigarh, KV High Grounds, KV Sector 31D Chandigarh, KV 47 Chandigarh, KV Dappar)
Venue:	CSIR-IMTECH
Duration:	17th September 2018
Activity organized	Guided tour of the Microbial Type Culture Collection and Gene Bank (MTCC), Bioinformatics Centre (BIC) including the 3D virtual reality and 3D printing facilities, and BERPDC facilities by scientists in charge of the facilities Popular science lecture by Dr. Purnananda Guptasharma, Professor of Biological Sciences and Dean, Research and Development at IISER Mohali Poster session to explain ongoing research at CSIR-IMTECH

The detailed programme schedule was as follows.

Time	**Activity**
9.30 AM	75 Students and accompanying teachers from KV schools of Chandigarh arrive at IMTECH
10 AM to 11 AM	Public science lecture by Prof. Purnananda Guptasharma, Professor of Biological Sciences and Dean, Research and Development at IISER Mohali Venue:Seminar Hall, Main Building
11AM to 11.30	Scientist-Students Interactions Venue: Seminar Hall, Main Building
11:30 AM to 12:30 PM	Posters Presentation and Exhibits Venue: Old reception area in front of seminar hall
12.30 PM to 1.30 PM	Lunch for School Students

	Venue: Canteen Ground Floor
1:30 PM to 5:30 PM	Lab Tour/ Visit to Institutional Facilities:
1:30 PM to 3:00 PM	MTCC facility
3:00 PM to 4:30 PM	BIC facility including 3D virtual reality and 3D printing facilities
4.30 PM to 5.30 PM	BERPDC facility

Some snapshots of the programme follow below.

Lecture by Dr. Purnananda Guptasharma, scientist-student interactions and poster exhibits

Students at BIC in 3D virtual reality and 3D printing facilities

Students in MTCC facility

CSIR-IMTECH visit on 18th September 2018:

A visit to CSIR-IMTECH by 49 students and their 3 accompanying teachers from 2 KV schools (KV Jakhoo-Hills Shimla, KV Jutogh Cantonment Shimla) was arranged on 18th September 2018 upon their request as part of Jigyasa programme.

Participants:	49 students and 3 teachers from 2 KV schools outside Chandigarh region (KV Jakhoo-Hills Shimla, KV Jutogh Cantonment Shimla)
Venue:	CSIR-IMTECH
Duration:	18th September 2018
Activity organized	Guided tour of the Microbial Type Culture Collection and Gene Bank (MTCC), Bioinformatics Centre (BIC) including the 3D virtual reality and 3D printing facilities, and BERPDC facilities by scientists in charge of the facilities

CSIR-IMTECH visits on 19th September 2018:

A visit to CSIR-IMTECH by 97 students and their 8 accompanying teachers from 3 KV schools (KV 2 Sirsa, KV 4 Ambala, KV 3 Ambala) was arranged on 19th September 2018 upon their request as part of Jigyasa programme.

Participants:	97 students and 8 teachers from 3 KV schools outside Chandigarh region (KV 2 Sirsa, KV 4 Ambala, KV 3 Ambala)
Venue:	CSIR-IMTECH
Duration:	19th September 2018
Activity organized	Guided tour of the Microbial Type Culture Collection and Gene Bank (MTCC), Bioinformatics Centre (BIC) including the 3D virtual reality and 3D printing facilities, and BERPDC facilities by scientists in charge of the facilities

CSIR-IMTECH visit on 20th September 2018:

A visit to CSIR-IMTECH by 43 students and their 3 accompanying teachers from 1 KV school (KV 1 Ambala) was arranged on 20th September 2018 upon their request as part of Jigyasa programme.

Participants:	43 students and 3 teachers from 1 KV school outside Chandigarh region (KV 1 Ambala)
Venue:	CSIR-IMTECH
Duration:	20th September 2018
Activity organized	Guided tour of the Microbial Type Culture Collection and Gene Bank (MTCC), Bioinformatics Centre (BIC) including the 3D virtual reality and 3D printing facilities, and BERPDC facilities by scientists in charge of the facilities

Debate and Poster contests for KV students at CSIR-IMTECH on 27th September 2018:

Debate and Poster contests were held for students of KV schools from Chandigarh region on 27th September 2018. For these contests, screening contests were first held at cluster level by Kendriya Vidyalaya. During these screening contests, 28 students were selected for the poster contest (4 from each cluster), and 24 students were selected for the debate contest (4 from each cluster except for Hussainpur and Faridkot clusters where 2 each were selected).

Participants:	52 students and accompanying 28 teachers from 32 KV schools representing all the seven clusters in Chandigarh region (KV 4 JRC, KV3 JRC, KV 1 Adanpur, KV Suranussi JRC, KV Zirakpur, KV 4 Jalandhar, KV 1 Halwara, KV Baddawal Cantonment Ludhiana, KV 2 RCF Hussainpur, KV 2 Ferozpur cantonment, KV 47 Chandigarh, KV Bhikhiwind, KV Shikar DBN, KV Set 29 OCF, KV Highgrounds, KV Mohali, KV 1 Amritsar, KV Nabha, KV Mullanpur, KV 4 Pathankot, KV 2 Pathankot, KV 3 Pathankot, KV Nangal Bhur, KV 1 Pathankot, KV 3 Bathinda, KV 5 Bathinda, KV 1 Bathinda, KV SLIET Longowal, KV 1 Patiala, KV 2 Patiala, KV 3BRD Chandigarh, KV 1 Ferozpur cantonment)
Venue:	CSIR-IMTECH
Duration:	27th September 2018
Activity organized	Poster contest on topics "CSIR – where science meets society", "Bharatiya Vidyan ke badte kadam" and "Microbes in daily life" Debate contest on topics "GMO – boon or bane", "Should Government invest on green energy?", and "Is human activity the substantial reason for climate change?" Guided tour of the Bioinformatics Centre (BIC) including 3D virtual reality and 3D printing, and BERPDC facilities by scientists in charge of the facilities Interaction with scientists and prize distribution.

In total, there were 52 students accompanied by 28 teachers attending the debate and poster contests at CSIR-IMTECH from 32 schools (KV 4 JRC, KV3 JRC, KV 1 Adanpur, KV Suranussi JRC, KV Zirakpur, KV 4 Jalandhar, KV 1 Halwara, KV Baddawal Cantonment Ludhiana, KV 2 RCF Hussainpur, KV 2 Ferozpur cantonment, KV 47 Chandigarh, KV Bhikhiwind, KV Shikar DBN, KV Set 29 OCF, KV Highgrounds, KV Mohali, KV 1 Amritsar, KV Nabha, KV Mullanpur, KV 4 Pathankot, KV 2 Pathankot, KV 3 Pathankot, KV Nangal Bhur, KV 1 Pathankot, KV 3 Bathinda, KV 5 Bathinda, KV 1 Bathinda, KV SLIET Longowal, KV 1 Patiala, KV 2 Patiala, KV 3BRD Chandigarh, KV 1 Ferozpur cantonment).

The poster contest topics (given by CSIR-IMTECH) were "CSIR – where science meets society", "Bharatiya Vidyan ke badte kadam" and "Microbes in daily life". The debate contest topics were based on suggestions by the Kendriya Vidyalaya and included "GMO – boon or bane", "Should Government invest on green energy?", and "Is human activity the substantial reason for climate change?". For the poster contest, the students brought posters hand-prepared by them on chart paper and explained the concept to the judge panel in 3 minutes. For the debate contest, students argued for or against the given topic in 3 minutes. The contests were judged by specially constituted panels of CSIR-scientists and staff, and prizes were distributed to winners (one first prize, one second prize, one third prize and two consolation prizes) of both the debate and poster contests.

Following the contests, the visiting students and teachers were also offered a tour of the Bioinformatics Centre (BIC) including the 3D virtual reality and 3D printing facilities, and the fermentation facility at BERPDC.

The detailed programme was as follows.

Programme on 27th September 2018
9:30 am: KV Student participants of poster session arrive at IMTECH
9:30 to 10 am: KV Students set up posters in Reception area, GNRPC building
10 am: KV Student participants of debate session arrive at IMTECH
10 am to 11:30 am: Poster session at Reception area, GNRPC building
10:30 am to 11 am: Tea at Reception area, GNRPC building
11:30 am to 1:30 pm: Debate session at Seminar hall, main building
1:30 pm to 2:30 pm: Lunch at IMTECH cafeteria
2:30 pm to 3:30 pm: KV students visit BIC facility, including the 3D virtual reality and 3D printing facilities
3:30 pm: KV Students leave IMTECH campus

Some photos of the event follow.

Glimpses of the poster contest

Glimpses of the debate contest

IMTECH

CSIR-IMTECH celebration of CSIR Foundation Day – Open day and students' visit on 28th September 2018:

A visit to CSIR-IMTECH by 101 students and their 9 accompanying teachers from 11 KV school (KV AFS Barnala, KV 1 Bathinda, KV 3 Bathinda, KV 4 Bathinda, KV 5 Bathinda, KV SLIET Longowal, KV 1 RCF Hussainpur Kapurthala, KV 2 RCF Hussainpur Kapurthala, KV Kapurthala Cantonment, KV 3 AFS Bhisiana, KV Ubhawal) was arranged on 28th September 2018 on CSIR-IMTECH Open Day (celebrating CSIR Foundation day on 26th September).

Participants:	101 students and 9 teachers from 11 KV schools from Chandigarh region (KV AFS Barnala, KV 1 Bathinda, KV 3 Bathinda, KV 4 Bathinda, KV 5 Bathinda, KV SLIET Longowal, KV 1 RCF Hussainpur Kapurthala, KV 2 RCF Hussainpur Kapurthala, KV Kapurthala Cantonment, KV 3 AFS Bhisiana, KV Ubhawal)
Venue:	CSIR-IMTECH
Duration:	28th September 2018
Activity organized	Guided tour of the Microbial Type Culture Collection and Gene Bank (MTCC), Bioinformatics Centre (BIC) including the 3D virtual reality and 3D printing facilities, Animal House, and BERPDC facilities by scientists in charge of the facilities CSIR Foundation Day Programme including the Foundation Day Lecture titled "Global Healthcare Challenges and Opportunities especially from the developing world perspective" delivered by Prof. Jagat Ram, Director, P.G.I.M.E.R., Chandigarh and CSIR-IMTECH student talent display programme

Some photos of the event follow.

CSIR-IMTECH visit on 30th January 2019:

A visit to CSIR-IMTECH by 49 students and their 4 accompanying teachers from 1 KV school (KV GC CRPF Pinjore) was arranged on 30th January 2019 upon their request as part of Jigyasa programme.

Participants:	49 students and 4 teachers from 1 KV school outside Chandigarh region (KV GC CRPF Pinjore)
Venue:	CSIR-IMTECH
Duration:	30th January 2019
Activity organized	Guided tour of the Microbial Type Culture Collection and Gene Bank (MTCC), Bioinformatics Centre (BIC) including the 3D virtual reality and 3D printing facilities, and BERPDC facilities by scientists in charge of the facilities

KVS 46th Jawaharlal Nehru National Science, Mathematics and Environment Exhibition for Children

Participants:	~120 students from Chandigarh and neighboring regions
Venue:	KV Sector 47, Chandigarh
Duration:	19th December 2018
Activity organized	Dr. Srikrishna Subramanian and Dr. Balvinder Singh from CSIR-IMTECH served as judges to judge exhibits under the theme "Health and Cleanliness" theme at the KVS 46th Jawaharlal Nehru National Science, Mathematics and Environment Exhibition for children .

Some photos follow below.

Outreach activities with schools/colleges other than Kendriya Vidyalaya during this period

As part of Open day, CSIR-IMTECH received student visitors from the following institutes (tabulated below). All students were offered a guided tour of the Microbial Type Culture Collection and Gene Bank (MTCC), Bioinformatics Centre (BIC) including the 3D virtual reality and 3D printing facilities, Animal House, and BERPDC facilities by scientists in charge of the facilities. This activity was organized by a separate team, not by the Jigyasa Programme Committee.

Participants:	403 students from DAV college Sector 10 Chandigarh, Lovely Professional University Phagwara, Chitkara University Chandigarh, Chandigarh University, Khalsa College Patiala, Chandigarh Group of Colleges Landran, Sant Baba Bhag University Jalandhar.
Venue:	CSIR-IMTECH
Duration:	28th September 2018
Activity organized	Guided tour of the Microbial Type Culture Collection and Gene Bank (MTCC), Bioinformatics Centre (BIC) including the 3D virtual reality and 3D printing facilities, Animal House, and BERPDC facilities by scientists in charge of the facilities

Some photos follow below.

Scientist-student connect meet at Muktsar:

CSIR-IMTECH scientists participated in a scientist-student connect meet at Muktsar on 20th February 2019 as part of the Jigyasa programme.

Participants:	500 students and 150 teachers
Venue:	Muktsar
Duration:	20 February 2019
Activity organized	Dr. S. Kumaran, Dr. J. C. Bose, Mr. Sandaldeep, Mr. Sachin, Mr. Rahisuddin, Ms. Neha Saini, Mr. Narender Kumar and Mr. Deep Kandal participated from IMTECH in the scientist-student connect meet. Dr. J. C. Bose delivered lecture on antibiotic resistance, and Neha Saini delivered lecture on role of proteins in human body

A few snapshots and Media coverage of the event follows below.

प्रोजेक्ट देगा विद्यार्थियों के करियर को नई दिशा

Publish Date:Thu, 21 Feb 2019 08:09 PM (IST)

जिला प्रशासन श्री मुक्तसर साहिब ने एक नई पहल कदमी करते विद्यार्थियों का कैरियर संबंधी मार्गदर्शन करने के लिए दिशा प्रोजैक्ट की शुरूआत की है। इस प्रोजैक्ट की पहली कड़ी के तहत इंस्टी

जागरण संवाददाता, श्री मुक्तसर साहिब

जिला प्रशासन श्री मुक्तसर साहिब ने विद्यार्थियों का करियर संबंधी मार्गदर्शन करने के लिए दिशा प्रोजेक्ट की शुरूआत की है। इस प्रोजेक्ट की पहली कड़ी के तहत इंस्टीट्यूट ऑफ माईक्रोबियल साइंस चंडीगढ़ के विज्ञानियों ने विद्यार्थियों व अभिभावकों को विज्ञान विषय में विभिन्न संभावनाओं के बारे बताया। विद्यार्थियों में विज्ञान विषय प्रति रूचि पैदा करने के लिए उन्होंने विद्यार्थियों को कुछ प्रयोग करके भी दिखाए।

डीसी एमके अरा¨वद कुमार ने कहा कि इस प्रोजेक्ट का उद्देश्य है कि बच्चों को वर्तमान प्रस्थितियों के अनुसार बताया कि जाए कि वह 12वीं के बाद कौन-कौन से क्षेत्रों में जा सकते हैं व उनके लिए कैरियर का चुनाव के लिए क्या संभावनाएं हैं।

यह भी पढ़ें

आरोपितों की गिरफ्तारी के लिए सौंपा एसडीएम को ज्ञापन

इंस्टीट्यूट ऑफ माईक्रोबियल साईंस चंडीगढ़ के सीनियर विज्ञान डॉ. एस कुमारन ने कहा कि इंस्टीट्यूट विद्यार्थियों को विज्ञान विषय से जोड़कर उन्हें बता रहा है कि डॉक्टरी व इंजीनिय¨रग के बिना भी विज्ञान विषय में दर्जनों ऐसे क्षेत्र है जिसकी पढ़ाई कर बच्चे अपना भविष्य रोशन कर सकते हैं व साथ ही साथ देश की सेवा भी कर सकते है। उनका संस्थान दवाईयों की खोज पर कार्य कर रहा है। इस साल का 11000 विद्यार्थियों तक इस तरह सीधा संपर्क करने का भी प्रोग्राम है। सहायक कमिश्नर जनरल वीरपाल कौर ने कहा कि यह प्रोग्राम विद्यार्थियों के लिए बहुत लाभदायक होगा व यह अध्यापकों की क्षमता में बढ़ोतरी के लिए सहाई सिद्ध होगा। इंस्टीट्यूट के विज्ञानी जेसी बोस ने इस अवसर पर दवाईयों व सुक्षमजीवों के कारण होने वाली बीमारियों के बारे बताया। उन्होंने बताया कि डॉक्टर की सलाह बिना कोई दवाई न ले व जब डॉक्टर की सलाह से दवाइ लो तो दवाई बीच न छड़ें बल्कि जितनी दवाई का कोर्स डॉक्टर न बताया है वह जरूर पूरा करें। एसआरएफ सनेहा ने प्रोटिन के मनुष्यी जीवन में महत्व के बारे जानकारी दी।

समागम को सफल बनाने के शिक्षा विभाग के जिला शिक्षा अधिकारी मलकीत ¨सह, राज कुमार, बल¨वदर ¨सह, श¨मदर बत्तरा, मैडम वनीता, नवजीत ¨सह व रेडक्रॉस सचिव प्रो. गोपाल ¨सह भी उपस्थित थे।

Punjab

Posted at: Feb 21, 2019, 7:03 AM; last updated: Feb 21, 2019, 7:03 AM (IST)

Career guidance drive for students

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Students get career guidance under the project 'Disha' in Muktsar on Wednesday. Tribune photo

Also in this section

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Tribune News Service
Muktsar, February 20

The Muktsar administration started project "Disha" for imparting career guidance to students on Wednesday. A team of scientists from the Institute of Microbial Technology, Chandigarh, went to the District Red Cross Complex and informed students and teachers about job opportunities and career in the science group.

The team also motivated students to opt for science for their higher studies. MK Aravind Kumar, Deputy Commissioner, Muktsar, said the project had been started to give guidance to students, especially who are in Classes X, XI and XII, so that they can rightly choose their future education. Meanwhile, Virpal Kaur, Assistant Commissioner (General), Muktsar, said, "The students will be able to know that they can not just become doctors or engineers from the science subject, but there are plenty of other courses and jobs available in this field."

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CSIR-IMTECH team involved in the Jigyasa programme activities in 2018-2019

Activity	IMTECH team members
Activities from 21 March 2018 to 23 May 2018	Jigyasa co-ordinators: Dr. Ramya T.N.C., Dr. Venkata Ramana V.
Activities from 24 May 2018 to 10 December 2018	Jigyasa Programme Committee: Dr. Ramya T. N. C. (Chairperson), Dr. Venkata Ramana V. (Convenor), Dr. Alka Rao, Dr. D. Sahoo, Dr. Neeru, Dr. V. K. Bhalla. Mr. R. Soni
Activities from 11 Dec 2018 to present:	Jigyasa Students/Scientist Connect Program Committee: Dr. Ramya T. N. C. (Chairperson), Dr. Beena Krishnan (Member), Dr. V. Venkata Ramana (Member), Dr. S. Kumaran (Human Resource Management Group Coordinator)
All activities aided by the smooth functioning of	Director secretariat, Administration section, Human Resource Management Group, Purchase and Finance/Accounts sections, Project management group, IT department, Mr. Dhiraj Goswami and security staff, Housekeeping staff, Horticultural staff, and cafeteria staff
Jigyasa Summer research camp	Mentors in participating host labs: Mani Shankar Bhattacharyya, Mr. E. Senthil Prasad, Dr. Vijayender Bhalla, Dr. Anirban Roy Choudhury, Dr. Vijay Sonawane, Dr. Saumya Ray Chaudhuri, Dr. Charu Sharma, Dr. Anshu Bhardwaj, Dr. Srikrishna Subramanian, Dr. Balvinder Singh, Dr. Neeraj Khatri, Dr. Ashwani Kumar, Dr. Hemraj Nandanwar Volunteers: Ms. Ankita Jain, Mr. Sandal Deep, Mr. Davender Singh, Ms. Megha Chaudhary, Ms. Rajwinder Kaur, Ms. Shweta Singh, Ms. Shristy Verma, Mr. Khadim Husain, Ms. Chetna Dureja, Ms. Amanpreet Kaur, Mr. Sandeep Basotra, Ms. Vibhuti, Mr. Vyas Kumar, Ms. Bani Jolly, Ms. Tina Sharma, Anu Negi, Ms. Navjot Kaur, Ms. Pragya Priyadarshini, Dr. Sachin Raut, Mr. Bhupinder Singh, Ms. Monika, Mr. Ajit, Mr. Vineet Kumar, Ms. Vidhu Singh, Ms. Sonali Sunsunwal, Ms. Sonal Mahajan. Orientation lecture: Dr. Ashwani Kumar Quiz masters: Dr. Beena Krishnan, Dr. Venkata Ramana V. Refreshments: Mr. Davinder Singh, Mr. Gopal, CSIR-IMTECH cafeteria staff Security: CSIR-IMTECH security staff
Institutional tours during various CSIR-IMTECH visits	Mr. Kailash, Mr. Pradeep, Ms. Stuti, Mr. Ranjoth Microbial Type Culture Collection and Gene Bank (MTCC): Dr. Suresh Korpole, Dr. Venkata Ramana, Mr. Sumit Mittal, Mr. Hariom Kushwaha, Mr. Upendra Singh, Mr. Dhan Prakash, Mr. Ramesh Singh Biochemical Engineering Technology Area Unit (BERPDC facility): Dr. MS Bhattacharyya, Mr. E. S. Prasad, Dr. Anirban Roy Choudhury, Mr. Davender. Bioinformatics and Big Data Analytics Technology Area Unit (BIC facility): Dr. Balvinder Singh, Dr. S Subramanian, Mr. Harvinder Jassal, Dr. Anshu Bhardwaj, Mr. Deepyan Chatterjee, Mr. Chander Shekhar Sharma, Ms. Tina Sharma, Mr. Harminder Singh, Mr. Rakesh Kumar Electron Microscopy facility: Dr. Anil Theophilus, Ms. Surbhi Chaudhary, Ms. Asmita Animal House and BSL facility: Dr. Khatri, Dr. Sachin Raut, Dr. Ashwani Kumar, Dr. Pawan Gupta

	Tour organizers and volunteers: Mr. K Bhamare, Mr. Pradeep Kumar Patel, Dr. K. P. Sengar Refreshments: Mr. Davinder Singh and CSIR-IMTECH cafeteria staff Security: CSIR-IMTECH security staff
Scientist interactions during various CSIR-IMTECH visits	Dr. Anil Koul, Dr. Raman Suri, Dr. Manoj Raje, Dr. Sahoo, Dr. S. Karthikeyan, Dr. Srikrishna Subramanian, Dr. Anshu Bhardwaj, Dr. Balvinder Singh, Mr. Chander Shekhar, Mr. E. S. Prasad, Dr. Anirban, Dr. Manishankar Bhattacharyya, Dr. Ramya T.N.C., Dr. Venkata Ramana V., Dr. Beena Krishnan, Dr. Ashwani Kumar
Scientist lectures during induction training of teachers on 23rd May 2018	Dr. Beena Krishnan and Dr. Ashish
Scientist visits and lectures	Dr. Amit Tuli, Dr. Raman Parkesh, Dr. Ashish, Dr. Manishankar Bhattacharyya, Dr. J. C. Bose, Mr. Nitish, Mr. Sachin, Ms. Ankita, Mr. Sandal Deep, Ms. Manshi Vij, Ms. Mouli Chatterjee, Ms. Divya Sharma, Dr. Vijayender Bhalla, Mr, E. Senthil Prasad, Dr. S. Kumaran, Mr. Rahisuddin, Ms. Neha Saini, Mr. Narender Kumar and Mr. Deep Kandal
CSIR-IMTECH visit coorganized with IISF on 17th September 2018	IISF organizers: Dr. K. P. Sengar, Mr. Kailash, Mr. Manuj Tripathi, Dr. Deepak, Dr. Charu, Mr. Harvinder Jassal, Dr. Ramya T.N.C.
Poster and Debate contests on 27th September 2018	Poster judge panel: Dr. Hemraj Nandanwar, Dr. V. K. Bhalla, Mr. E. S. Prasad, Dr. S. Kumaran Debate judge panel: Dr. Raman Parkesh, Dr. Alka Rao, Mr. Byomkesh Pandey, Mr. Jagdish Kumar Prashar Voluteers: Ms. Aasawari Khairnar, Ms. Sonal Mahajan, Ms. Sonali Sunsunwal, Ms. Madhu Lata, Ms. Anu Negi
CSIR-IMTECH visit organized on Open Day on 28th September 2018	Open Day organizing team: Mr. Manuj Tripathi, Dr. Anshu Bhardwaj, Dr. K. P. Sengar, Dr. Amit Tuli, Mr. Harvinder Jassal, Mr. Chander Shekhar, Mr. Kailash Bhamare, Dr, Ramya T.N.C. Volunteers: Ms. Madhumita, Mr. Brajendra, Ms. Ankita, Ms. Anu S, Ms. Anu N, Ms. Sharmila, Ms. Shweta, Mr. Deep, Ms. Shalini, Ms. Madhu Lata, Ms. Joyasree, Ms. Nisha, Mr. Abhineet, Mr. Radheshyam, Ms. Nishtha, Ms. Sayilpreet, Mr. Oinam, Mr. Praveen, Ms. Nandita, Ms. Anu, Mr. Zakir
Judging for "Health and Cleanliness" theme in KVS 46th Jawaharlal Nehru National Science, Mathematics and Environment Exhibition for Children organized by KVS at KV Sector 47, Chandigarh	Dr. Srikrishna Subramanian and Dr. Balvinder Singh