



JANUARY-MARCH 2021

BUZZER

PUSHPA GUJRAL SCIENCE CITY



MESSAGE FROM THE DESK

Dear Readers

One of the most oft-used terms in this pandemic is the term “new normal.” The new normal in education is online learning triggered by the COVID 19 pandemic. All around the world, educational institutions have shifted to online learning platforms to continue with the process of educating students and so did we. With our motto ' learning never stops' we continued reaching out to you through our online webinars/ training. In the last quarter 22 events were organized in which internationally and nationally acclaimed experts from INTEL, IISER, IIT, Facebook, etc were invited. The 28th State level children science congress, a mega event was organized jointly with PSCST virtually for the first time in history of PGSC. It almost seemed impossible in the beginning, but I am glad that the event was organized flawlessly and to the satisfaction of our participants.

The quarter marked the 16th Annual Day which was also celebrated virtually. Since PGSC was inaugurated on March 19, 2005, till now about 5 million visitors have entered our doors arriving with curiosity and leaving inspired by our creative and innovative content.

These are difficult times. We are exposed to the same worrisome situation like the previous year. Keeping in view the surge in COVID-19 cases in Punjab during late February, the much awaited events like Dog show, Flower show, Food and Nutrition show and Innotech 2020 had to be postponed. Following Government guidelines, PGSC was again closed to general public w.e.f. March 26 till April 10. The possibilities of reopening PGSC will be explored only after taking into consideration COVID-19 situation as well as the Government guidelines.

I urge you all to take protective and preventive measures such as hand washing, regular sanitation, social distancing, etc. We are at an important juncture in our fight against Covid and need to be very very careful and vigilant.

We will continue with the online learning programmes. Our staff will be in touch with you for updates on online events. You may also check our upcoming events/activities on our website and social media.

Stay Home, Stay Safe.

Dr Neelima Jerath
Director General

Remembering Nobel Laureate HAR GOBIND KHORANA
 Platform: ZOOM
January 9, 2021
 4 pm - 5 pm
 Registration @ www.pgsciencecity.org

CHIEF GUEST

Dr S.S. Marwaha
 Chairman Punjab Pollution Control Board

OUR SPEAKERS

Dr. Felix Bast
 Associate Professor & HOD, Department of Botany Central University of Punjab
 TOPIC: How Har Gobind Khorana's pioneer works paved way for the development of RNA vaccines against COVID-19?

Dr. Vandana Jaiswal
 CSIR-Young Scientist Awardee Scientist, CSIR - Institute of Himalayan Bioresource Technology, Palampur
 TOPIC: Molecular Biology Journey: From DNA to Genome Synthesis

Organized By: **PUSHPA GUJRAL SCIENCE CITY**

Birth Anniversary of Nobel Laureate Har Gobind Khorana celebrated (January 9, 2021)

Dr. Har Gobind Khorana was one of the first scientists to demonstrate the role of nucleotide in protein synthesis and helped crack the genetic code. He also helped develop custom-designed pieces of artificial genes and methods that anticipated the invention of the polymerase chain reaction (PCR) process, a biochemical technology used to amplify a single or a few copies of a piece of DNA. To commemorate his Birth Anniversary, Science City organized a webinar. Dr. S.S Marwaha, Chairman Punjab Pollution Control Board was the Chief Guest at this occasion. Dr. Felix Bast, Associate Professor, Department of Botany, Central University of Punjab was the key speaker. In his talk he said that understanding of genetic code is instrumental for the elucidation of the structure of Coronavirus as well as identifying its spike proteins- the target antigen for most of the present vaccine development endeavors. Further he said that understanding of the genetic code paved way for the development of Moderna's mRNA vaccine as well as Pfizer-BioNTech's mRNA vaccine against COVID-19.

Dr. Vandana Jaiswal, Young Scientists awardee (CSIR) from Institute of Himalayan Bioresource Technology, Palampur delivered a special talk on "Molecular Biology Journey from DNA to Genomes Synthesis". Delivering her talk she said that, discovery of genetic code opened new avenues to understand the molecular and genetic mechanism. Molecular biology and DNA technology have been successfully implemented in several human health and crop improvement programs.

National Youth Day Celebrated (January 12, 2021)

National Youth Day, also known as Vivekananda Jayanti, is celebrated on 12 January being the birthday of Swami Vivekananda. In 1984 the Government of India declared this day as National Youth Day and since 1985 the event is celebrated in India every year. A webinar on the theme 'Channelizing Youth Power for Nation building' was organized by PGSC to celebrate this day. Sh. DPS Kharbanda (IAS), Director Sports and Youth Services, Punjab was the Chief Guest at this occasion. Giving his inaugural address he said that energy, creativity, enthusiasm, determination, and spirit of youth needs to be channelized to achieve progress in the field of science & technology, finances, health, sports and nation building. He informed that during COVID pandemic, 13000 Youth Clubs of Punjab participated in the sanitization drive initiated by the respective District Administration.

Dr. Parmvir Singh, Professor, Sports Sciences, Punjabi University Patiala while delivering an expert talk on "Channelizing Youth Power for Nation Building" said that youth power can do wonders provided its potential is tapped for the developmental projects of the nation. Indian youth have never lagged behind when called upon to meet any challenge. It is for the national leaders to play their part by mobilizing their abilities and providing them with suitable opportunities. Let there be no doubt about the strength, power and capabilities of youth. Youth are expected to participate in education, peace and development of the nation. More than 200 students and teachers from different schools of Punjab participated in the event.

PUSHPA GUJRAL SCIENCE CITY
 celebrates
NATIONAL YOUTH DAY
 THEME: Channelizing Youth Power for Nation building
JANUARY 12, 2021
 4 pm - 5 pm
 Platform: ZOOM
 Registration @ www.pgsciencecity.org

CHIEF GUEST
Sh. DPS Kharbanda, IAS
 Director, Sports, Punjab

SPEAKER
Dr. Paramvir Singh
 Professor, Department of Sports Sciences, Punjabi University, Patiala

Joint Events with Punjab State Council for Science and Technology (PSCST)

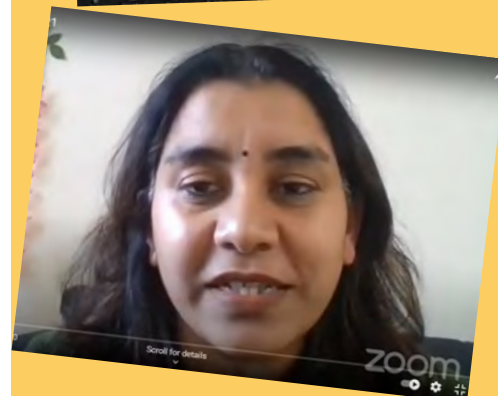
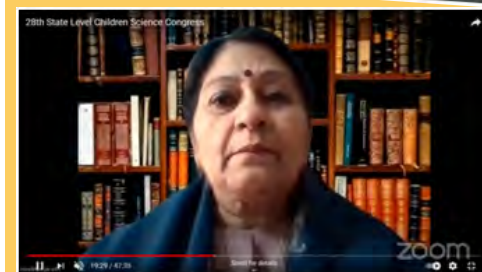
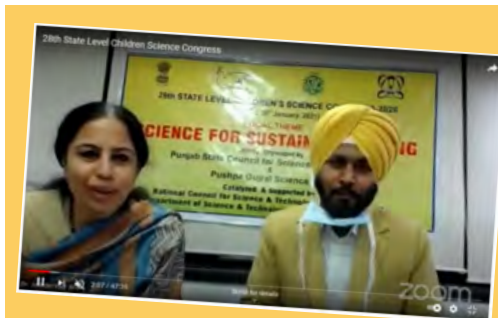
The two arms of Department of Science and Technology, GoP joined hands to celebrate two important events:

State level Children Science Congress-2020 (January 29, 30 & February 1, 2021)

The State Level Children Science Congress-2020 was organized virtually by Punjab State Council for Science & Technology, Chandigarh and PGSC. Around 300 students and 150 Teachers participated from all over Punjab. Sh. Charandeep Singh, Joint Secretary, STE, GoP was chief guest at the occasion. Children's Science Congress is a nationwide Science Communication programme of National Council for Science and Technology Communication (NCSTC), Department of Science and Technology, GoI, which started in the year 1993. Students are motivated to undertake research projects and present their findings in the school in the first instance. Projects finalized at the school level are presented at the District level competition where various schools participate and compete for State level selection. Three (3) winning projects from Junior Group (10-13 years) and 3 winners from Senior Group from every district participated at the State level competition from where a total of 16 projects are selected to represent the state for the National Level Children Congress. This year national level could not be organized due to COVID 19 pandemic.

National Science Day (February 28, 2021)

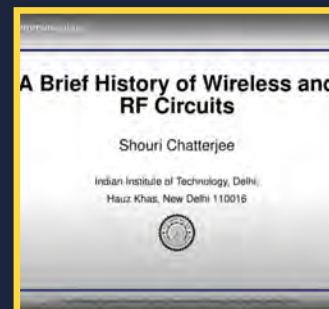
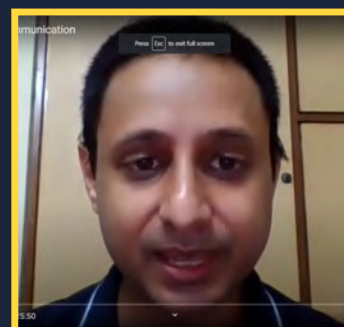
National Science Day is celebrated on February 28 every year to mark the discovery of the Raman effect by Indian Physicist Sir C. V Raman on 28 February 1928. The theme for the National Science Day (NSD) 2021 was "Future of STI: Impacts on Education, Skills and Work". A special talk on Bioacoustics was delivered by Dr. Manjari Jain, Associate Professor, Biological Sciences, IISER Mohali on this occasion. She said that Bioacoustics is a branch of science that deals with understanding of acoustic communication in animals. This also includes studying the ecology and behaviour of animals like birds, bats, insects etc. that communicate with each other using sound and vibrations. Further, she said that bioacoustics can also be used to monitor biodiversity and environmental changes including alteration of natural habitats, noise pollution and changes in environmental temperature. A declamation contest was also organized for students of class 6 to 11 on this occasion on the theme 'Future of STI: Impacts on Education, Skills and Work'. Around 200 students from all over Punjab participated in the program.





16th Annual Day celebrated

Pushpa Gujral Science City, Kapurthala celebrated its 16th annual day on 19 March 2021 in virtual mode. Dr. Neelima Jerath, Director General, Science City recalling achievements at the occasion said that Pushpa Gujral Science City has received overwhelming response from the region. More than 45 Lac visitors have visited Science City since its opening to the public in 2005. Further, two galleries on Mathematics and Electricity are being set up at PGSC with financial assistance of Government of Punjab and Govt. of India would be upcoming attractions for its visitors. Technology upgradation of Space Theatre will also be taken up shortly as the State Government has already made a provision of 11 Cr. during the financial year 2021-22. She added that while schools in Punjab remained closed during COVID-19 lockdown, PGSC ensured that the students' tryst with science continued with a renewed vigour. More than 125 on-line programs including webinars, Science camps, workshops, innovative ideas were organized reaching out to students, teachers and general public. Speaking at this occasion, Prof. Shouribrata Chatterjee, Department of Electrical Engineering, Indian Institute of Technology (IIT) Delhi delivered a special talk on "Wireless and Radio frequency circuits: From Maxwell to the modern cell phone". During his talk, he said that, modern cell phone is a wonder of the world that works reliably for all of us which allows us to communicate with others in different locations without the use of any physical connection. He talked about the evolution of wireless and RF circuits from early inventors and Maxwell's equations to the modern cell phone.

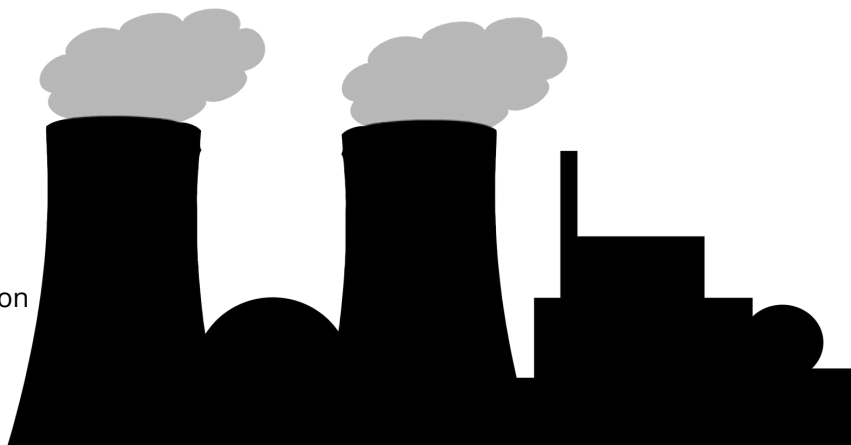


Webinar on Nuclear Energy: Clean and Green source of future electricity generation (January 17, 2021)

Energy is the most fundamental requirement of every society or nation to climb the ladder of development. There are many sources of energy including conventional, non-conventional and clean fuels. To spread awareness and understanding on nuclear energy, a webinar on the subject was organized. Sh. S.K Jena from Nuclear Power Corporation of India Ltd. delivered a special talk on this topic.

The webinar was attended by more than 200 participants. "Nuclear energy was first utilized commercially in the 1950s. Since it has continued to grow, and there are now around 440 nuclear power reactors across the world, providing 10% of the planet's electricity. Nuclear energy is the world's second-largest source of low-carbon power, following closely behind hydroelectric power," said Sh. Jena in his talk.

In her address, Dr Neelima Jerath, DG, PGSC said, "the largest benefit of nuclear energy is that it is a clean energy. It does not create air pollution or release greenhouse gases, so in this way it is much more sustainable for the environment than fossil fuels. The only byproduct of the production of nuclear energy is excess steam, which is simply recycled into the atmosphere as clean water vapor."





Webinar on World Cancer Day (February 4, 2021)

World Cancer Day is an International day marked on 4th of February every year to raise awareness of cancer and to encourage its prevention, detection and treatment. A webinar was organized by Pushpa Gujral Science City to mark this day. At this occasion, Dr. Narayanan Ganesh, Head and senior scientist, Jawaharlal Nehru Cancer Hospital and Research Centre, Bhopal, delivered a lecture on 'Cancer and Anti cancer diet: myths to facts' in which he familiarized the audience with the signs, symptoms and modalities to detect cancer. Emphasizing on the phenomenal role of diet in prevention and management of various cancerous disorders, he said, "The link between cancer and diet is just as mysterious as the disease itself. Certain foods and nutrients may help prevent—or, conversely, contribute to—certain types of cancer. With proper nutrition, active lifestyle, good quality sleep, balanced emotional health and the right choice of foods it is possible to overcome cancer and lead a long life".

'Later' may be too late: Protect Wetland, World Wetland day Celebrated (February 2, 2021)

The day serves to recognize the influence and positive production that Wetlands have had on the world and in terms brings communities together for the benefit of Mother Nature. At this occasion, Dr. Bitapi C. Sinha, Senior Professor from Wildlife Institute of India, Dehradun and an interpretation expert, delivered a special talk on 'Water and me'. Dr. Sinha said, "Wetlands are very important for our survival. They cover only 0.5% of the earth's surface but are home to nearly 10% of all known species. They hold and provide most of the freshwater by filtering pollutants from the ground naturally".

Dr. Neelima Jerath, Director General, Science City said that wetlands are important habitats for biodiversity, especially migratory birds. Hence, it is essential to see that these are well protected. Recalling her association with work on Wetlands of Punjab since 1988, she informed that the State government had recognized the importance of this ecosystem in the economy and ecology of the State way back in 1987 when work on Harike Wetland was initiated. Harike was recognized as a Ramsar site in 1990, followed by Ropar and Kanjli wetlands in 2000. Now we have six wetlands in Punjab declared as Ramsar sites which includes Keshopur, Nangal and Beas River also and are being managed by the State Wetland Authority in the Department of Forests & Wildlife. She informed that the Authority was taking appropriate precautionary measures in view of the recent bird flu. Around 200 students from different educational institutions of Punjab participated in the program.

WORLD CANCER DAY

FEBRUARY 4
4 pm - 5 pm

Platform: ZOOM

KEY SPEAKER
Dr. Narayanan Ganesh
Consultant Oncogenetic, Head & Senior Scientist
Department of Research, Jawahar Lal Nehru Cancer
Hospital & Research Centre, Bhopal
Topic- Cancer & Anti-Cancer Diet:
Myths to Facts

SPECIAL INVITEE
Mr. Kulwant Singh Dhaliwal
Chairman/Global Ambassador
World Cancer Care

FREE Registration @
www.pgsciencecity.org

Organized by: Pushpa Gujral Science City

WORLD WETLANDS DAY

Webinar
February 2, 2021
4 pm - 5 pm

Theme: Wetlands and Water
Platform: Zoom

'Water & Me'
SPEAKER
DR. BITAPI SINHA
Sr. Professor, PA Network
Wildlife Conservation Education Division,
WILDLIFE INSTITUTE OF INDIA,
DEHRADUN

INTRODUCTORY REMARKS
DR. NEELIMA JERATH
DIRECTOR GENERAL, PGSC

PUSHPA GUJRAL
SCIENCE CITY
The Science of WOW

FREE Registration at
www.pgsciencecity.org

Organized by: Pushpa Gujral Science City



International Day for Women and Girls in Science (February 12, 2021)

In order to achieve full and equal access to and participation in science for women and girls, and further achieve gender equality and the empowerment of women and girls, the United Nations General Assembly declared 11 February as the International Day of Women and Girls in Science. A webinar was organized by Science City at this occasion. **Ms. Huma Abidi, Senior Director of AI Software products and Engineering, INTEL, California**, the key speaker said, "In order to attract women, we need to do a better job explaining to girls and young women, especially from small towns, as to how AI is relevant in the world, and how they can be part of creating exciting and impactful solutions. We need to show them that AI spans so many different areas of life, and they can use AI technology in their domain of interest, whether it's art or robotics or data journalism or television. Some of the existing exciting applications of AI which has already started impacting our daily lives are virtual assistants like Alexa, self-driving cars, customer targeted ads on social media or how Netflix knows which movies a client wishes to watch. Fortunately we now have many great role models such as Fei Fei Li who is leading human centered AI at Stanford and Meredith Whittaker, who works on social implications through the AI Now institute at NYU, plus many more women leaders emerging in AI".

Dr Neelima Jerath, Director General, Science City said, "Statistics show that women remain widely underrepresented in STEM fields. Although science subjects like medicine and biology are well represented by women, fields such as engineering, mathematics and computer science are generally perceived as male bastions. Even while discussing these subjects, the vast majority of references girls hear are masculine, although women have increasingly contributed immensely to this field, especially in technology and management. One important aspect which needs to be acknowledged is that this is in spite of women being saddled with the biological responsibility of bearing a child or taking primary care of the family.

Ms Khushi Sharma, a young researcher and blogger also shared her research journey and how her school and home environment had motivated her to look into new vistas in science. Khushi shared her live mathematical model simulating the differential equations that govern the flow of people between four compartments of the S E I R model of Epidemiology. This live model works for any city, region, or country and forecasts the extent of the spread and preparations required.

"India is well known as a tech hub, and I see it taking full advantage of advancements in AI as it relates to health, farming, transportation logistics, fraud detection, autonomous driving, etc."

Huma Abidi



"Women role models can show young girls that it is cool to be an engineer or a scientist."

Dr Neelima Jerath



"Science centres like, Pushpa Gujral Science City are great motivating factors which can influence girls to enjoy science."

Khushi Sharma



International Women Day Celebrated (March 8, 2021)

A webinar on 'Role of Social Media in Women Empowerment' was organized to celebrate International Women's Day. At this occasion Dr. Neelima Jerath, Director General, Science City said that a large number of Women in India have successfully broken the glass ceiling and are in leadership positions in Industry, Government and as Entrepreneurs and social media has played an important role in making their voices heard, especially in microbusinesses. She informed that in 2018, Niti Aayog launched the Women Entrepreneurship Platform, a portal to provide knowledge and support to women entrepreneurs. The Micro, Small and Medium Enterprises Ministry has also launched a network for women entrepreneurs, Udyam Sakhi, in 2018 to aid, counsel, assist and protect women's interests through a single portal. On the eve of International Women's Day, Mrs. Nita Mukesh Ambani launched 'Her Circle', a first of its kind digital networking platform for women which aims to accelerate women's empowerment. The COVID pandemic also highlighted women role as health care workers, caregivers, innovators and community organizers.

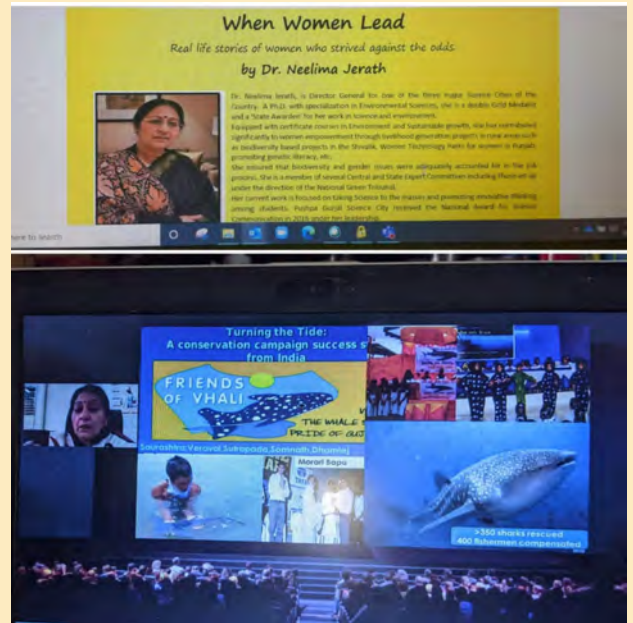
Mr. Jaspal Singh, Additional CEO PSRLM was present as a special guest on this occasion. During his address, he said that due to income from different farm and non-farm activities in rural areas in Punjab, rural women now play a big role decision-making power in their families and have earned a better standard of living than before.

The Key Speaker, Mr. Rajat Arora, Policy Programs Manager, Facebook, India and South Asia during his special talk on "Social Media For Livelihood Development" said that digital transformation is especially critical for the upliftment of women, who have been disproportionately affected by the pandemic, facing job losses and taking up increased household and childcare responsibilities.



Mr. Rajat Arora, Policy Programs Manager, Facebook, India and South Asia

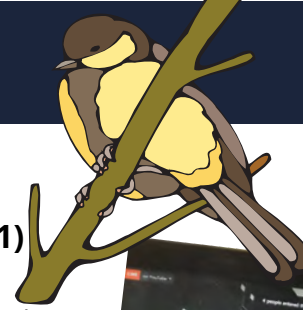
- Dr Neelima Jerath, DG, PGSC was invited for talk by **INFOSYS** during 'Int. Women's Week' celebrations where she shared success stories of women who have played leadership roles in conservation & sustainability of biodiversity.



- Dr Jerath was also an expert panelist at the Int. Women's day program organized by **National Biodiversity Authority** and Ministry of Environment Forest and Climate Change.



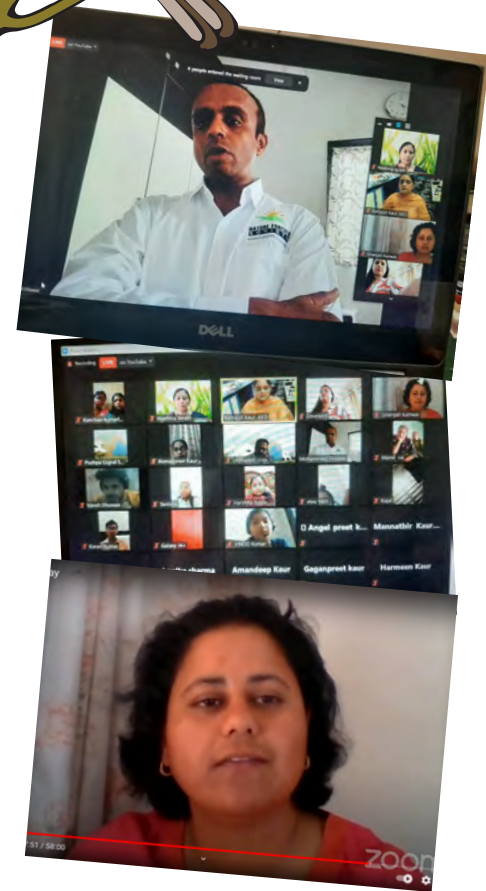
He informed that Facebook India through its flagship programs - Digital Beti and Going Online as Leaders (GOAL) is aiming to empower the women participants in areas including leadership, entrepreneurship, digital marketing and industry-based skills, thereby making them job-ready. Under Digital Beti, 5,000 women village level entrepreneurs have trained 2.5lakh rural beneficiaries in 300 districts across 10 states. Around 200 students and 100 rural women of Self Help Groups (SHGs) from different districts of Punjab participated in the program.



Save sparrows to Save humanity: Sparrow Man Webinar on World Sparrow Day Organized (March 20, 2021)

Passer domesticus (gharaan di chidi) is a bird most of us grew up with. The chorus of chirping that greeted us at sunrise and sunset was as good as clockwork but slowly and surely these little delightful and hyperactive birds have bid adieu to our homes and cities. Every year March 20 is observed as World Sparrow Day to raise awareness about the bird. The need for marking this day was felt due to the tremendous decrease in its population. A webinar was organized to mark this occasion. **Mohammed Dilawar, the man behind the first celebration World Sparrow Day** was the key speaker at the occasion. He said that five different species of sparrows are found in India. Out of the five, only one species is migratory while the rest are native to the Indian subcontinent. The most abundant and widespread is *Passer domesticus*. It's important to save sparrows by installing nest boxes, bird feeders, planting native plants and reducing use of chemical pesticides and fertilizers. He emphasized on saving sparrows to save humanity.

Ms. Gitanjali Kanwar, Coordinator, WWF-India added that there are about fifty species of birds that live closest to human dwellings. These birds include bulbul, sparrows' pigeons, warblers, parakeets, etc. Such birds find birdhouses safer, protective and habitable. It is the survival instinct that urges the endangered sparrows to shift their natural habitats from houses and buildings to the artificially built bird houses.

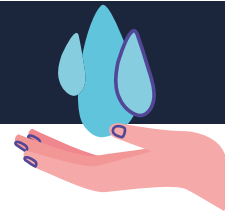


Forest Restoration Must to Control Global Warming International Day of Forests celebrated (March 21, 2021)

The International Day of Forests was established on the 21st day of March, by resolution of the United Nations General Assembly on November 28, 2012. Each year, various events celebrate and raise awareness of the importance of all types of forests, and trees outside forests, for the benefit of current and future generations. Science City organized a webinar at this occasion. Ms Vidhya Sagari, IFS, Divisional Forest Officer, Sangrur was the key speaker. Delivering her talk, she said that India is one of the ten most forest-rich countries of the world with rich biodiversity. Forest is a major environmental resource and their degradation due to industrialization is a matter of serious concern. One million species of flora and fauna have already become extinct due to deforestation. Further, it is estimated that around 2000 to 8000 species are being lost annually creating imbalance in our Ecosystem. Sincere efforts are required to save flora and fauna in the country. Therefore, there is a dire need to educate and make people aware about the need and importance of planting trees to restore forests, as well as, to control the alarming rate of global warming, she added.



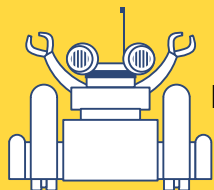
Dr. Neelima Jerath, Director General, Science City, in her introductory remarks said the Deptt. of Science, Technology and Environment and the Deptt. of Forests and Wildlife had extensively studied the Shivalik Forests from 1998 to 2004. She informed that though Punjab is primarily an agricultural state with 84 % area under agriculture and only about 6 - 7 % area under Forests, however it harbors diverse vegetation ranging from pines to thorny forests. The major forest areas are in the North Western Shivaliks, besides Forests in the Mand area and Birs and Rakhs. Considering that alluvial plains require to maintain about 15-20% area under forests, the State has started action under the Green Punjab Mission, Tandrust Punjab Mission and under 'Other effective area-based conservation measures'. Trees Outside Forests are important to raise the green cover in the state. Pushpa Gujral Science City also harbours rich floral biodiversity with 5500 trees of 65 species and is playing an important role to bring awareness on environmental issues by organizing Nature Camps. She urged the students and teachers to grow more plants to save mother earth.



From the INNOVATION HUB

Workshop on World of smart sensors (January 15, 2021)

In this workshop, students learnt about smart sensors and their integration with micro controller. Students developed their own sensor based circuits through online circuit designing software.



Robotic Programming (January 30, 2021)

In this training, students learnt Graphical user interface programming of robotics. Students were also taught programming techniques to design line follower and obstacle detecting robots.

Webinar on Mobile Communication (February 24, 2021)

The students learnt different types of electronic communications, signal processing and working of mobile towers. Besides, students got to know the working of devices used behind the Digital communication such as Modem, routers & switches etc.



Workshop on Kitchen Ki Chemistry (February 15, 2021)

In this training the fundamental chemistry involved in kitchen was demonstrated to the participants. Interesting facts about acids and bases in food articles were also explained.

World Water Day (March 22, 2021)

World Water Day, held on 22 March every year focuses on the importance of freshwater. A core focus of World Water Day is to support the achievement of Sustainable Development Goal 6: water and sanitation for all by 2030. Science City organized a webinar on the theme 'Valuing Water'. Dr S.S Ladhar, Former Director, Punjab State Council for Science and Technology was the key speaker. Delivering his talk, he said that rapid population increase has resulted in increase in water demand to meet the domestic, agricultural, industrial and power generation requirements. With the growing need of water for various purposes, water is becoming a scarce natural resource. Further, increasing water pollution due to rapid urbanization, large scale industrialization and use of fertilizers and pesticides for increased agricultural production is causing deterioration of water quality in both surface and groundwater and affecting the net availability of fresh water for consumptive uses. The number of tube wells in Punjab have increased from 1,92,000 existing in the year 1970 to more than 15 lakhs. This has resulted in the depletion of ground water levels @ 23-50 cm per year, he added.



Other webinars organized



Birthday of Issac Newton
04.01.21



Birthday of Thomas Alva Edison Day
11.02.21



Birthday of Steve Jobs
24.02.21



Birthday of Alexander Graham Bell
03.03.21



OUR WINNERS

STATE LEVEL CHILDREN SCIENCE CONGRESS - 2020

S. No.	Name of the Group Leader and Group Members	Project Title
1.	Thluxmi Handa & Yatish Choudhary	To study the potential of Magnetic Field for Sustainable Agriculture
2.	Priya & Priyanka Sharma	Paddy straw - a friend and foe
3.	Lakshmi Kumari & Jaskiran Kaur	Utilization of used sanitary pads ash in concrete formation
4.	Teknamveer Singh	Grab-o-Green
5.	Jaspreet Kaur & Sukhpreet Kaur	Rain Harvesting
6.	Manveer Kaur & Jaspreet Kaur	To contribute to "Accessible India Mission" : to disable the Disability of local people by means of technology
7.	Pooja & Ranjana Rai	Impact of lockdown on marriage ceremonies and other
8.	Chunit Bansal & Jayant Kaushal	Modern Carcass Utilization Plant
9.	Anmol & Kirandeep Kaur	Social Innovation to increase fertility of soil in natural way
10.	Avni Nevta & Tanvi Sharma	To study the potential of paddy straw for treating textile Waste water and use of banana and orange peels as natural Fertilizers in treated textile waste water for sustainable Agriculture
11.	Sunaina & Simran Devi	A study of field ecosystem and effect of mulch layers on the soil quality (characteristics)
12.	Harjas Singh & Jashanpreet Singh	To analyse wastage of water by RO and its potential use
13.	Anju & Jenat	Fallen leaves – Gardener's Gold
14.	Sumiti Bhagat & Savita	Performance of E-rickshaw in Jalandhar
15.	Gunjan & Naaz	Aqua Saviour
16.	Gurveer Kaur & Manveer Kaur	Eco-friendly farming: An alternative way to chemical fertilizers and Pesticides

NATIONAL SCIENCE DAY

Declamation contest

Category-1 (Class 6 to 8)

1st prize: Kamalika,
Bawa Lalvani Public School, Kapurthala
2nd prize: Kriti Walia,
Bawa Lalvani Public School, Kapurthala

Category- 2 (Class 9 to 11)

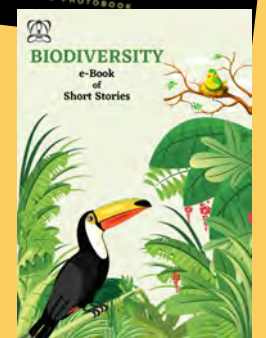
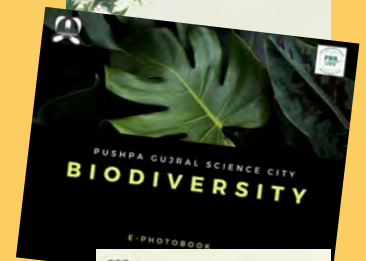
1st prize: Sumandeep Kaur,
Bawa Lalvani Public School, Kapurthala
2nd prize: Yashkaran Rattu,
G.S.S.S.School Gandhi Camp Jalandhar

Call for Innovative Ideas Contest

The Innovation Hub , PGSC called for innovative ideas. The best idea was awarded cash prize of Rs.3,000/-. Top five ideas will be mentored and developed into a working model at Innovation hub and sent to National Innovation Foundation for their consideration.

Sr. No.	Name	Title of Idea	Position
1.	Anudeep Kaur Sandhu Class 10 School D.C. Model International School, Opp. FCI Godown, Shaheed Udham Singh Marg, Ferozepur	Traffic Control Module (TCM)	Best Innovative Idea
2.	Jobandeep Singh Class 10 School D.C. Model International School, Opp. FCI Godown, Shaheed Udham Singh Marg, Ferozepur City, Punjab	Emergency Connect Band	Appreciation
3.	Bhavya Goyal Class 10 School Spring Dale Public School Sherpur Ludhiana	Solar Power Plant Cleaner	Appreciation
4.	Himanish Aggarwal Class 7 th School: St. Xavier's School Bathinda	Two In One Electronic - Energy And Water Saving Device	Appreciation
5.	Sumandeep Kaur Class 11 th School: Bawa Lalvani public school, Kapurthala	Act of charity	Appreciation

Our e-books



The books can be accessed
@ www.pgsciencecity.org

Bookings

Ticket (in rs)	Student/Teacher/ Children	Adult	Family
Entry Ticket (Galleries & Dinosaur Park)	105	155	470
Package Ticket (Entry to galleries, Large Format Theatre or Digital Planetarium, Laser Show,3D Show, Climate Change Theatre)	265	355	1120
Package Ticket > 25 Group	255	345	1070
Complete Package Ticket[Digital Planetarium or Large Format Film(Any one), Flight Simulator, Earth Quake Simulator, Laser Show, 3D Show, Climate Change Theatre, Galleries & Exhibits]	305	425	1320
Complete Package Ticket > 25 Group	285	405	1270

Minimum 500 students	10% on prevailing ticket rates
Between 501 and 1000 students	12.5% on prevailing ticket rates
Above 1000 students	15% on prevailing ticket rates

Note: Food coupon worth Rs 20 in the ticket

ANNUAL MEMBERSHIP SCHEME

Student / Teacher: Rs 570/-
Adults: Rs 810/-
Family (2 Adults + 2 Children (<18 yrs)): Rs 2500/-
To know about membership benefits, please
contact:
Dr. Munish Soin, Scientist C; M: 8146580387

HOSTEL FACILITY FOR STUDENTS/TEACHERS

AC accommodation for 100 students and 10 teachers is available. Separate arrangement for boys and girls.

Stay charges: Rs 100/- per person (Food charges extra).For hostel booking, contact: Ms Harsimran Arora; Phone: 01822-501963, 501964

Weather permitting, Science City provides Night Sky Watching facility when clear sky offers best view of the planets. Students/ Teachers: Rs 30/- , General Public: Rs 50/-, Family: 150: For more details &reservations, please contact: Mr. Akashdeep Singh; Mobile: 9855015591; E-mail: akashds13@gmail.com

BUSINESS OPPORTUNITIES

Register yourself as a Tour Operator or Be our Sponsors. For More Information, Please Contact:
Sh. Sheeraj Batish (DGM, Mktng & PR) @ 998847443 or sheeraj_batish@hotmail.com



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