



JULY-SEPTEMBER 2022

# Buzzer

## PUSHPA GUJRAL SCIENCE CITY



### MESSAGE FROM THE DESK



Dear Readers

Warm Greetings from Science City.

Modern Science Museums like PGSC, focus on interactive learning over passive knowledge dissemination. A visit to a science museum as a search for knowledge, truth, universal laws and their meaning and application in our lives is important. Children therefore, especially need to go to museums as often as they can. The Mukh Mantri Vigyan Yatra is being undertaken in Punjab with this objective. The past quarter witnessed the flagging off of this flagship programme to facilitate the visit of students from Government Schools of Punjab to Science City by Sh. Gurmeet Singh Meet Hayer, Hon'ble Minister Science, Technology and Environment, Govt. of Punjab who also joined the students at PGSC campus and inspired them to learn science. We were happy as we welcomed 25,065 students under this scheme. Besides, we also had Government school students ( 832 in no.) from Haryana sponsored by the Directorate of School Education, Haryana.

PGSC was also honoured to have Dr. Hari Babu Kambhampati, Governor of Mizoram who emphasized that every state must have such places to make students learn science in fun and interactive manner.

During this quarter, PGSC partnered in the "International Conference on Sustainability Education 2022 (ICSE)" with Mobius Foundation, Centre for Environment Education, UNESCO, TERI, Foundation for Environment Education, Climate Reality Project, etc. and organized a session on "Promoting Innovations to achieve Sustainable development" where international experts from INTEL, SWISS Agency for Development and Cooperation and national experts from NITI Aayog, IIM Ahmedabad, GIAN, etc shared their vision, projects and progress. Other events organized were Van mahotsav, NPCIL-DAE Iconic week celebration, Green Consumer Day, Ozone Day, Engineers Day, etc under which several competitions , like poster making, quiz, slogan writing, etc were organized besides expert talks.

The forthcoming quarter will see a series of joyous occasions for the masses to share with family and friends. I urge you to utilize your festival holidays for visiting Science City and ignite your curiosity, encourage scientific endeavour & spark your imagination.

Dr. Neelima Jerath  
Director General



Mukh Mantri Vigyan Yatra, a flagship program of Pushpa Gujral Science City exclusively for Govt. school students, was flagged off on 10.08.2022 by Sh. Gurmeet Singh Meet Hayer, Hon'ble Minister, Science, Technology & Environment, Govt. of Punjab, from Govt. Sr. Sec. School, Sandhupatti, Barnala. He flagged off 4 buses carrying 200 students to Science City. Secretary, Science, Technology & Environment, GoP; DG, PGSC; Dy. Commissioner, Barnala; Director, PGSC; SDM, Barnala and Senior Officers of Education Department of Barnala were also present at the occasion. **Hon'ble Minister also visited Science City after the flag off.**



Hon'ble Minister Science, Technology & Environment, Sh. Gurmeet Singh Meet Hayer at Science City



## VISIT OF GOVERNOR OF MIZORAM TO SCIENCE CITY

Hon'ble Governor of Mizoram, Dr. Hari Babu Kambhampati visited the Science City on 18.07.2022. He appreciated various facilities set up at PGSC and emphasized that every State must have such places to make students learn science in fun and interactive manner.



## International Conference on Sustainability Education (ICSE): Parallel Session organized by PGSC

PGSC conceptualized and organized a session on "Promoting Innovations to achieve Sustainable development" in the International Conference on Sustainability Education (ICSE) in collaboration with Mobius Foundation, UNESCO, UNEP (United Nations Environment Programme), Centre for Environment Education, TERI, Foundation for Environment Education, Climate Reality Project, etc. on 10.09.2022 at New Delhi.

The session was chaired by Prof. Anil Gupta, Prof. IIM Ahmedabad, Member-National Innovation Foundation, Founder of Honey Bee Network, SRISHTI and Moderated by Dr. Neelima Jerath, DG, PGSC.

The key Speakers and their topics were:

- i) Ms. Huma Abidi, Sr. Director, Artificial Intelligence SW Products and Engineering, INTEL Corporation, Cupertino, California, USA spoke on "AI & Sustainability".
- ii) Mr. Prateek Deshmukh, Lead ATL, Atal Innovation Mission, NITI Aayog, Delhi gave in-depth overview of AIM programs.
- iii) Ms. Mita Goswami, ESD Expert, SWISS Agency for Development and Cooperation, Mongolia shared international (Drobak Montessori School, South East Norway) and Indian (Swaraj School) examples about sustainability education.
- iv) Ms. Sharda, Kamla Nehru Public School, Kapurthala, Punjab presented her ideas on Sustainability Education and how their school is practicing sustainability in its premises by involving every student in creative hands-on activities.



### 4th International Conference on Sustainability Education

**Theme:**  
Building Connections and Partnerships  
for Sustainable Future

**Venue:** Scope Convention Centre,  
New Delhi, 110003  
**Date:** 9-10 September 2022

**Session 6**  
Promoting Innovations to achieve Sustainable Development

by Pushpa Gujral Science City

#### Partners



**Session Chair:**  
Padmashri Dr.  
Anil Gupta,  
Founder NIF,  
Honey Bee  
Network,  
Prof. IIMA



**Coordinator/  
Moderator:**  
Dr. Neelima  
Jerath, Director  
General, Pushpa  
Gujral Science  
City, Punjab



**Distinguished  
Speaker:**  
Ms. Huma Abidi,  
GM & Sr Director ,  
AI S/W, INTEL Corp.  
Cupertino, USA



**Distinguished  
Speaker:**  
Mr. Prateek  
Deshmukh  
Atal Tinkering  
Mission, NITI  
Aayog, NDelhi



**Distinguished  
Speaker:**  
Ms. Mita  
Goswami, ESD  
Expert, SWISS  
Agency for Dev &  
Coop. Mongolia



**Distinguished Speaker:**  
Ms. Sharda, Microsoft  
Certified Educator &  
Expert Sustainability,  
KN Pub Sch, Phagwara,  
Punjab.



# VAN MAHOTSAV

Van Mahotsav is an annual one-week program on dissemination of information on importance of trees in India which is celebrated in the first week of July. A webinar on “ Scope and potential of commercially importance medicinal and aromatic plants” was organized by PGSC on July 4, 2022. The primary objective of Van Mahotsav week celebration is to bring awareness on the environmental issues and educate masses about the need of planting trees as these are one the best solution to control global warming.

Dr. Meenu Sood, Professor and Head, College of Forestry, Y.S Parmar University of Horticulture and Forestry, Nauni, Solan was key speaker on this occasion. She delivered a special talk on importance of medicinal and aromatic plants to highlight their benefits in health and well-being of people. She informed that medicinal plants have long been used in traditional medicine and ethnomedicine around the world. Aromatic plants, grown for their aroma and flavor, are also used to treat ailments. Aromatic chemicals can be found in the root, wood, bark, leaves, flower, fruit, seed, and other parts of the plant. As the benefits from medicinal and aromatic plants are recognized, these plants will have a special role for humans in the future. Further, she informed that consumption of medicinal and aromatic plants like rosehip, linden, mint, and ginger. Green tea and udi hindi increased by 76% during Covid.



*Science City is playing an important role in harboring rich floral biodiversity and is maintaining a herbal and medicinal plants. It has 5500 trees having rich cultural and heritage value at its premises.*

*Dr. Neelima Jerath, DG PGSC*

## Azadi ka Amrit Mahotsav celebrations

Pushpa Gujral Science City celebrated 75th Independence Day and Azadi ka Amrit Mahotsav at Science City Campus on 15.08.2022. At this occasion, a Cultural program (Talk on “Contribution of Science in India’s Development”, Poem, Patriotic song, Gidha, and Bhangra, etc.) involving participation of students from nearby Government and Private schools and PGSC staff was organized.



## NPCIL-DAE ICONIC WEEK

Science City celebrated Azadi ka Amrit Mahotsav in collaboration with Nuclear Power corporation of India Ltd.(NPCIL) by organizing a talk on “Nuclear Energy Safe Energy” and Drawing and Poster making Competitions on August 24 by involving participation of 75 students and teachers from 7 SD-ASK clubs set up in schools across Punjab. The event was celebrated to commemorate 75 years of progressive India.

Mr. Gaurav Kaloniya, Scientific Officer ‘E’, NPCIL delivered a talk on “Nuclear Energy Safe Energy”. Mr. Kaloniya said that Nuclear power is safe, Clean and environment friendly. Nuclear is a zero-emission clean energy source. It generates power through fission, which is the process of splitting uranium atoms to produce energy. The heat released by fission is used to create steam that spins a turbine to generate electricity without the harmful byproducts emitted by fossil fuels. He further said that Indian nuclear power reactors adopt highest standards of safety in all aspects of nuclear power viz, setting, design, construction, commissioning and operation.

### Drawing Competition (Theme: Nuclear Energy Safe Energy) :

1st Prize: Sukhman preet Kaur, DIPS Suranusi Jalandhar

2nd prize: Namanpreet , Kamla Nehru Public School Phagwara

3rd Prize: Jairaj Singh, DIPS Suranusi Jalandhar

### Poster Making (Theme: Nuclear Energy Safe Energy) :

1st prize: Shreya, CT Public School, Jalandhar

2nd prize: Kanika , DIPS Suranusi, Jalandhar

3rd Prize: Manat Chumber, Pioneer International School Rurka Kala





## National Engineer's Day (September 15)

National Engineer's Day is celebrated to recognize and honour the achievements of the great engineer Mokshagundam Visvesvaraya.

PGSC celebrated the day by organizing an online workshop on Internet of Things (IoT). Dr. Anurag Sharma, Professor, GNA University was the resource person at this occasion. During the workshop, Dr. Sharma briefly explained how a network of connected physical devices uses sensors and Application Programming Interface (API) to exchange data over network. Students learnt the fundamental concepts of cloud computing, wireless interfaces for data transfer & potential of IOT in real time applications. He demonstrated the technical steps involved in an IoT based project using an open source software and hardware development environment i.e. Node-MCU. Students were also actively involved in performing a practical experiment that involves interfacing of controller with cloud computing and thus, understood how to send data on cloud network.

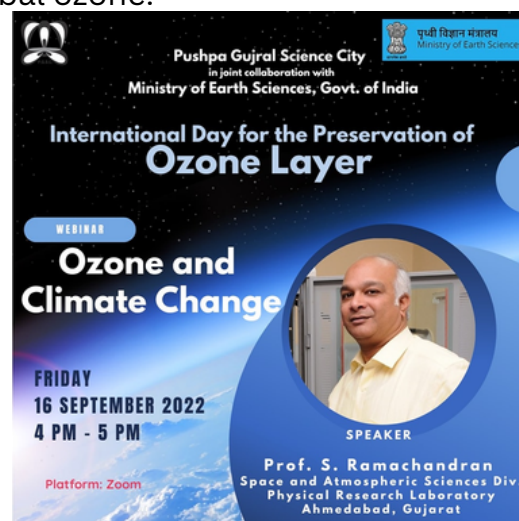


Dr. Anurag Sharma  
Professor, GNA University

## World Ozone Day (September 16)

Pushpa Gujral Science City celebrated World Ozone Day in collaboration with Ministry of Earth Sciences, Govt. of India by organizing a webinar, Poster Making and Slogan writing competitions for school students.

The webinar was organized on "Ozone and Climate Change" was also organized in the afternoon session. Prof. S Ramachandran, Space and Atmospheric Sciences Div. Physical Research Laboratory, Ahmedabad, was the key speaker at this occasion. During his talk, he highlighted the importance, sources and sinks of ozone, causes of ozone depletion in the stratosphere and recovery of global ozone.



### Poster Making competition (Topic - Ozone layer: Protecting life on Earth)

1st Prize: Anmol Preet Kaur, Sant Prem Singh Public School, Begowal

2nd Prize: Manveer Kaur, Govt. Sen. Sec. School, Kartarpur

3rd Prize: Hansdeep Kaur, Asian Public School, Kapurthala

### Slogan writing competition (Topic - Ozone layer: Protecting life on Earth)

1st prize: Janvee, DAV High School Kapurthala

2nd Prize: Komal, GSSS Kartarpur & Sukhwant Kaur, Sant Avtar Singh Yadgari S. S. School, Seenchewal.

## Green Consumer Day ( September 28)

The Green Consumer Day focuses primarily on awareness raising and the importance of recycling-reusing and reducing waste material. Dr. K Krishnamurthi, Chief Scientist & Head, Health and Toxicity Cell CSIR-National Environmental Engineering Research Institute, Nagpur was key speaker at this occasion.

He delivered a special lecture on “Circular economy for sustainable Development”. He said that Green Consumer Day calls for the protection and improvement of the environment. He informed that Circular economy is an ecosystem where components, products, and by products do not lose their value leading to sustainability. It has several advantages for the environment such as improved economy, clean environment, reduced GHG emission, low pressure on non-renewable resources, demand for new services etc.



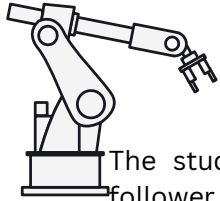
## Women Technology Park

Empowerment of Rural Women through Science based skill development' is an initiative taken by PGSC in collaboration with SEED Division, Department of Science & Technology, Govt to empower the women in rural areas. The project offers training to the rural women in Mushroom Cultivation ( with special focus on *Pleurotus sajor caju*), Preparation of Cow Dung Logs & Pots and Value Addition to textiles (Hand Block Printing and Computer Assisted Embroidery).

During the past quarter, orientation Programs on livelihood generation were organized in 5 villages (Hambawal (07.07.2022), Captain Swaran Singh Colony (08.07.2022), Nawan Pind (16.07.2022), Khojewal (16.09.2022) and Village Shahpur Teera (29.09.2022). 106 women attended. 12 women completed Training programme on Mushroom (Milky) cultivation in Alipur, P.O. Kukarpind, Jalandhar. 35 women completed short term online training in Block printing and 1 women enrolled for long term training in block printing cum computer embroidery.



# FROM THE INNOVATION HUB

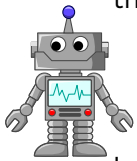


## Workshop on Robotics (20.07.22 , 10.09.22 & 15.09.22)

The students were guided to assemble a line follower robot using sensor through interactive kits. Students learned coding technique to program a robot under the guidance of the expert. They also learned how to operate and program a robot.

## Workshop on Electronics for Beginners (28.07.22)

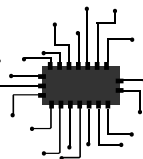
The students learned working of capacitors, ICs, diodes, transistors, resistors, etc. They were made to understand the concept of power supply circuits. The students made rectifiers wherein they learned how to convert AC voltage into DC during the practical session.



## Workshop on Assembling of Robot (05.08.22)

In this workshop, the students understood the basic working of various components like microcontroller, motors and sensors used in making a Robot. They were guided to assemble a line follower robot using sensor through interactive kits.

## Workshop on Circuit Designing (08.08.22 & 29.09.22)



The students learned about Microcontroller by designing circuits using Arduino microcontroller. The students designed electronic circuit for ultrasonic sensor and learned programming part involved using the sensor for controlling the output devices.



## Workshop on Coding Techniques (20.08.22)

In this workshop, the students learned coding technique to program a robot. They learned how to operate and program the robot.

## Workshop on Best out of waste (25.08.22)

The students learned to make use of scrap waste like, cardboard. They made balancing objects based on the concept of centre of gravity.



## Workshop on Lets do Home Automation (03.09.22 & 17.09.22)

In this session students learned basic concept of sensors and its working. An introduction to interfacing of sensors with electronic circuits was given. Students made automatic touchless switches using IR sensor to switch ON/OFF the electrical appliances. They also learned how to check sensor working using online software tools.

## Workshop on Arduino Coding (20.09.22)



The students got an overview of coding techniques and learned how to sketch a program and uploading method in Arduino micro controller. They also made LED blinking program and checked its actual working of the program.



# FROM SD-ASK CLUBS

PGSC, in collaboration with United Nations Development Program-SDG Coordination Centre, has undertaken SD-ASK (Sustainable Development-Attitude, Skills and Knowledge) program to create awareness on Sustainable development among youth. Under this programme SD-ASK clubs have been set up in schools across Punjab. Every fortnight an activity on a particular SDG is organized for the clubs. During the past quarter following activities were organized:

## Screening of Films on Climate Change (16-07-2022)

The event was organized in collaboration with Centre for Environment Communication, New Delhi. The event focussed on SDG-13 i.e. Climate Action. The show was moderated by Ms Alka Tomar, President CEC. Following films were screened during the show:

- Payenge Aisa Ek Jahan - A music video by OXFAM, India
- Causes and effects of Climate Change by National Geographic
- Global Warming by National Geographic
- The final tide by Vikram Mishra
- Rolex Awards Laureate by Sonam Wangchuk
- What is solar power by National Geographic
- Climate change: we are the problem & the solution

The screening was followed by discussion on key scientific issues in the film.

## Introduction to SDG 7: How renewable energy can power India? (06-08-22)

To give an overview of SDG-7 i.e., "Affordable & Clean Energy" an online introductory session to the SDG 7 was organized. Ms Kamajit Kaur, Co-coordinator of SD ASK Program delivered a talk on "How renewable energy can power India?".

An Essay Writing Competition on the theme "Building sustainable energy future" was also announced.

## International Youth Day (12-08-2022)

The objective of International Youth Day 2022 was to amplify the message that action is needed across all generations to achieve Sustainable Development Goals (SDGs) and leave no one behind. A webinar on the theme "Intergenerational solidarity: creating a world for all ages" was organized. Dr Nirmal Jaura, Former Director, Youth Welfare, Panjab University, Chandigarh was the key speaker.

## Webinar: Smart and Resilient Cities (17-09-2022)

A webinar focusing on "SDG 11: What are Smart and Resilient Cities" was organized. Dr Ashok Sharma, Former member Secretary, H.P State Pollution Control Board was the expert speaker. Dr. Sharma gave an overview of SDG-11 and discussed in detail what are smart and resilient cities. He further shared the advanced but sustainable technologies that may help in future to create smart cities.



Dr Ashok Sharma

## Quiz Competition (24-09-2022)

A Quiz Competition based on Sustainable Development Goals was organized for the SD-Ask Club members. 65 students participated in the competition.

## Winners of competitions

### Slogan Writing (Topic: Climate Change & Environment):

1st Prize: Harjot Kauldhar, Kamla Nehru Public School.

2nd Prize: Anushka, Bawa Lalwani Public School.

3rd Prize: Navreen Singh, GGSSS Ropar.

### Essay Writing (Topic: Building sustainable energy future) :

Mannat Chumber, Pioneer Int. Public School.

### Quiz:

Pranshu, Kamla Nehru Public School.

# TICKET PRICES

Ticket	Discounted Children /Student/Teacher	Adult	Family (2 Adult + 2 Children )
Entry Ticket	120*	170*	520**
Package Ticket(Entry to galleries, Large Format Theatre or Digital Planetarium, Laser Show,3D Show, Climate Change Theatre)	285 *	375*	1190**
Package Ticket > 25 Group	275*	365*	1130*
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]	325*	445*	1390**
Complete Package Ticket > 25 Group	305*	425*	1340**
Discounts			
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: *includes Food coupon worth Rs 20/-			
** includes food coupon of Rs.80/-			

## Annual Ticket Charges

You can visit PGSC any no. of time within one year of purchase of Annual Ticket. The cost of ticket is recovered in less than three visits. The Annual ticket rates are:

Student / Teacher: Rs 570/-

Adults: Rs 820/-

Orphans/ Handicapped / BPL Students: 290/-

Family (2 Adults + 2 Children (<18 yrs)): Rs 2500/-

Senior Citizens / Handicapped / BPL Adult member: 415/-

BPL / War Widow Families: Rs 1250/-

To know about membership benefits, please contact:  
Ms. Manpreet Kaur; M: 7889291007

## HOSTEL FACILITY FOR STUDENTS/TEACHERS

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

Stay charges: Rs 150/- per person (Food charges extra).For hostel booking, contact:  
Mrs Harsimran Arora; Phone: 01822-501963, 501964

## NIGHT SKY WATCHING

Science City provides Night Sky Watching facility when clear sky offers best view of the planets. Students/ Teachers: Rs 30/- , Adult: 50/-. Science City also provides Night Sky watching facility on demand of educational institutions at their own premises. Student / Teachers : Rs. 50/-. For more details & reservations, please contact: Ms. Kanika Sharma ; Mobile: 8837897789

## BUSINESS OPPORTUNITIES

Register yourself as a Tour Operator or Be our Sponsors. For More Information, Please Contact: Dr. Munish Soin, Scientist D; M: 8146580387

**Resident Editor: Dr. Rajesh Grover**

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