



Department of Science and Technology

Government of Karnataka

Annual Report

FY 2022-'23

TABLE OF CONTENTS

Sl. No.	Details	Page No.
1.	Introduction	01
2.	Grant Releases & Expenditure Details of Department of Science & Technology for the FY 2022-'23	02
3.	Karnataka Science and Technology Promotion Society	03
4.	Karnataka State Council for Science and Technology	11
5.	Karnataka Science and Technology Academy	21
6.	Jawaharlal Nehru Planetarium	34
7.	Pilikula Development Authority	48
8.	Dharwad Regional Science Centre	56
9.	Ballari Sub-Regional Science Centre	63
10.	Raichur Sub-Regional Science Centre	73
11.	Karwara Sub-Regional Science Centre	81
12.	Bidar Sub-Regional Science Centre	90
13.	Dr. H. Narasimhaiah Sub-Regional Science Centre, Gauribidanur Taluk, Chikkaballapur	94
14.	Bagalkot Sub-Regional Science Centre	97
15.	Davanagere Sub-Regional Science Centre	105

Department of Science and Technology

Annual Report for the FY 2022-'23

INTRODUCTION

Science and Technology (S&T) is the most powerful engine of growth and development in the present knowledge-based economy. It has profound effect on the way we live, largely through technological advancements. In everyday life, we enjoy various gifts of S&T that have made our life easier and more comfortable. Hence, development of S&T is particularly important so as to raise the standard of living, to eradicate blind belief & superstitions, create wealth as well as to ensure sustainable utilization of natural resources and conservation of biodiversity.

In this context, mainstreaming of science and technology in all areas of development is necessary so as to enable harnessing scientific advancements and technological innovations for societal good, particularly in rural areas.

Hence, it is necessary to disseminate information about scientific advancements to bring scientific awareness and to develop scientific temper across the society to provide impetus to uplift the living standards of rural people. In addition, scientific awareness can strengthen and empower the entire social fabric as well as to help in achieving overall development of people in an increasingly competitive global market.

Towards this, the Department of Science and Technology (DST) through its following subsidiary organizations, Scientific Institutions and Science Centres has been promoting science and technology to empower citizens as well as to build more inclusive, informed and sustainable society across the state:

- 1. Karnataka Science and Technology Promotion Society**
- 2. Karnataka State Council for Science and Technology**
- 3. Karnataka Science and Technology Academy**
- 4. Jawaharlal Nehru Planetarium**
- 5. Dharwad Regional Science Centre**
- 6. Pilikula Development Authority**
- 7. Ballari Sub-Regional Science Centre**
- 8. Raichur Sub-Regional Science Centre**
- 9. Karwar Sub-Regional Science Centre**
- 10. Dr. H Narasimhaiah Sub-Regional Science Centre, Gowribidanur, Chikkaballapur**
- 11. Bidar Sub-Regional Science Centre**
- 12. Bagalkot Sub Regional Science Centre**
- 13. Davanagere Sub Regional Science Centre**

**GRANT RELEASES & EXPENDITURE DETAILS OF
DEPARTMENT OF SCIENCE & TECHNOLOGY FOR THE FY 2022-'23**

(Rs. in lakhs)

Sl. No.	Programs/ Schemes	Allocated Grants	Released	Expenditure	Balance
1	Assistance to Scientific Institutions: Other Expenditures 3425-60-200-0-01 (059)	1500.00	1500.00	1241.44	258.56
2	Science & Technology Schemes: Other Expenditures 3425-60-200-0-16 (059)	100.00	100.00	97.76	2.24
3	Support to Nano Technology: Other Expenditures 3425-60-200-0-19(059)	100.00	100.00	-	100.00
4	District Science Centers	100.00	100.00	3.75	96.25
	A. Other Expenditures: 3425-60-200-0-20 (059)				
	B. District Science Centre – Salary: 3425-60-200-0-20 (101)	*158.00	-	-	
5	Vision Group on Science & Technology: 3425-60-600-0-02 (059)	100.00	100.00	-	100.00
TOTAL		2058.00	1900.00	1342.95	*557.05

* Grants allocated Rs.158.00 lakhs under the Head of Account 3425-60-200-0-20 (101) has been paid by the Department DDO through HRMS as salary grants for permanent staffs of Pilikula and Dharwad Regional Science Centres.

* Balance Rs. 557.05 lakhs will be committed amount earmarked for the implementation of the proposed projects.

Many S&T programs and schemes are being successfully carried out through the DST organizations based on their expertise. Details of the program undertaken by all the organizations of DST during the financial year **2022-23** are outlined in the next section.

KARNATAKA SCIENCE AND TECHNOLOGY PROMOTION SOCIETY (KSTePS)

Dept. of Electronics, Information Technology, Biotechnology and
Science & Technology, Govt. of Karnataka
24/2, Vijnana Bhavan, 21st Main Road, Banashankari 2nd Stage, Bangalore 560070

Introduction:

Karnataka Science and Technology Promotion Society (KSTePS) is an autonomous organization of Department of Science and Technology (DST), Govt. of Karnataka established under the Societies Registration Act 1960 in 2013. KSTePS aims at serving as a mechanism for supporting the preparation and implementation of policy initiatives of Department of Science and Technology and act as a nodal agency in channelizing the funding and coordinating the programmes of the Department across the State. It has also been entrusted to identify priority areas of science and technology, which are useful for long term development of the State towards developing core competency in such advanced areas. KSTePS is Chaired by Additional Chief Secretary to Govt., Department of Electronics, Information Technology, Biotechnology and Science & Technology with members drawn from various line Departments. Director (Technical), DST is the Member Secretary and Managing Director of KSTePS.

Important Programmes Co-ordinated by KSTePS are as Follows:

1. Science Centres and Planetariums

1.1. Regional Science Centres

With an aim to popularise developments in science and technology among general public and to provide an opportunity to develop scientific temper, scientific thinking and spirit of inquiry among students, particularly in rural areas, two Regional Science Centres have been established one at Pilikula Nisargadhama in Mangalore and other at Karnataka University Campus in Dharwad in association with Ministry of Culture, GOI. Both the centres are functioning well. Third Regional Science Centre is being established at Shivamogga in association with Ministry of Culture, GOI.



**Pilikula Regional Science Centre
Mangalore**



**Dharwad Regional Science Centre
Dharwad**

1.2. Sub-Regional Science Centres

These are the miniature of Regional Science Centres being established in phases with a broad vision and aim of taking science to people and bringing people to science in all District Headquarters across the State to popularize science and technological developments. Sub-Regional Science Centres are functional in Ballari, Bidar, Karwar, Chikkaballapura, Raichur, Davangere, Bagalkot and Koppal. Establishment of science centres in Chittapura, Haveri, Tumkur, Udupi, Chikkamagalur, Adichunchanagiri, Hassan, Madikeri, Chamarajanagar and Yadgir are in progress.

1.3. Planetariums

Planetariums are being established in selected cities of the State to promote concept of astronomy/astrophysics-based education through creating an interesting and stimulating ecosystem, with the state-of-the-art projection systems along with a special dome to recreate the appearance of night sky with stars and planets.

Currently, Jawaharlal Nehru Planetarium at Bengaluru and Swami Vivekananda Planetarium at Mangalore are functional. Establishment of Raichur, Bagalkot and Vijayapura Planetarium are in progress.

1.4. Inauguration of Science Center and Planetarium

In the current year, Bagalkote, Davangere, Koppal Sub Regional Science Center and Gadag Planetarium were inaugurated by KSTePS in association with respective district administration and the universities.

Sl. No.	Name of the Center	Inauguration Date	Photo
1	Bagalkote Sub Regional Science Center	29.12.2022	
2	Davangere Sub Regional Science Center	04.02.2023	

3	Gadag Planetarium	19.03.2023	
4	Koppal Sub Regional Science Center	21.03.2023	

2. Science Gallery in Bengaluru

A flagship initiative for the establishment of a Science Gallery in Bengaluru with an agreement between DST, GoK and Science Gallery International (SGI), Dublin, Ireland in association with local academic partners viz., IISc, NCBS and Srishti Institute of Art, Design and Technology, Bengaluru has been taken-up by the Department.

The gallery aims at providing new models and opportunities for young adults in the world of Science and Innovation in collusion with art & culture. Govt. has provided one acre twenty-six guntas of land at IVRI campus, Hebbal. The building is constructed at a cost of Rs. 86.75 crores. First phase of the building has been inaugurated on 18th March 2023.



Science Gallery Architectural Plan



First Phase building of SGB



SGB Building Inauguration by Hon'ble Chief Minister

3. Vision Group on Science and Technology (VGST)

The Vision Group on Science and Technology (VGST) was constituted by the Government in 2008 under the Chairmanship of Distinguished Scientist Bharat Ratna Prof. C.N.R. Rao, F.R.S., National Research Professor, Honorary President, JNCSAR. VGST serves as an apex body to monitor and guide in the implementation of VGST programs.

Important VGST programs that have been taken up for implementation are given below:

a) Grants for Research Excellence (GRE)

Under this scheme, grant will be provided to undertake research and development in the fields of Science, Engineering and Medicine.

b) Karnataka Fund for Infrastructure Strengthening in Science & Technology (K-FIST L1 & L2)

The program aims at providing financial support to higher educational institutions or research centres in the State towards creating the S&T based infrastructure or upgrading the existing infrastructure facilities to uplift the level of education and research.

c) Early Career Research Award (ECRA)

The scheme aims to encourage young researchers to initiate their research career in their respective institutions by providing a research grant as a seed money.

d) Award for Outstanding Research Publication (AORP)

The scheme aims at encouraging and rewarding outstanding researchers and faculty members, who have published their research work in reputed and peer-reviewed scientific journals through a cash award.

e) Faculty Development Program (FDP)

Under this scheme, a grant will be provided for conducting workshop for faculty members of science and Engineering Colleges to enhance their knowledge and skill about the recent technologies needed for industries, which will in turn enable them to transmit the same to the students.

During the current year, a total of 134 beneficiaries of FY 2021-22 under various VGST schemes have been selected and a sum of Rs. 6.82 crore has been released as first instalment to 122 beneficiaries. Also, a sum of Rs. 15.71 crore has been released as second and third instalment to the beneficiaries of previous years. Further, under revised VGST schemes proposals have been invited for the selection of beneficiaries for FY 2022-23.

4. Karnataka DST Scholarship for Ph.D. Students in Science and Engineering

Department has initiated ‘Karnataka DST Scholarship for Ph.D. students in Science and Engineering’ program as a new scheme from FY 2018-’19 in order to encourage Ph.D. students of Science and Engineering. In FY 2022-23 a total of 60 candidates have been selected. At present, including the previous year candidates totally 199 students are receiving scholarship.

5. Science Talent Search Program:

The Science Talent Search Scheme has been launched as a new scheme from the FY 2020-21. This Scheme aims to identify and inculcate the scientific temper in talented Pre-University, Science students in the State. 320 students are selected based on their S.S.L.C merit who have joined the First year Science stream in Government P U Colleges of each educational district. Scholarship amount of Rs. 1000/- per month shall be provided in their study period of 2 years (18 months). At present, including the previous year candidates totally 968 students are receiving scholarship. Selected students will be mentored in Science education through Karnataka Science & Technology Academy.

6. Vijnana Malike-500

The novel radio programme series **Vijnana Malike 500** has been launched with the aim of promoting new discoveries in the field of science and technology, the scientific aspects behind the tools we use, awareness of the scientific achievements of the country and the scientific spirit among the general public. The said programme is being launched as a series of programmes under the title “Nitya Vijnana” from August 15th, 2021 in association with All India Radio, Bengaluru. The programme is being telecast from all AIR stations of Karnataka, FM Rainbow (101.3 mhz) and Vividha Bharati channel (102.6 mhz). Renowned science writers of Karnataka are participating in these programs. Students, teachers and the general public are benefiting from the programme and about 365 radio episodes have been successfully broadcasted in this year.

7. Mobile Planetarium:

Mobile Digital Planetarium Project was re-implemented in the state from the current year. Each Mobile Planetarium will visit Govt. and Aided High School and setup Planetarium in the school premises and conducts planetarium shows on various astronomy topics. Out of Eleven (11) Mobile Digital Planetariums, Seven (7) planetariums were deputed to each district of Kalyana Karnatraka Region and remaining four (4) is deputed to three revenue division of the state. In this year

nearly 9900 shows were presented benefiting around 4.00 lakh students and teachers.



8. Karnataka Research, Development and Innovation Policy:

Hon'ble Chief Minister has released the Karnataka Research, Development and Innovation Policy formulated by the Task Force constituted by the Government under the Chairmanship of Prof. Ashok Shettar, Vice Chancellor, KLE Technological University, Hubballi in the inaugural ceremony of Bengaluru Tech Summit 2022 on 16.11.2022. In the Policy, it has been recommended for strengthening the capacity for innovation, research and innovation to drive regional ecosystem, supporting entrepreneurs through research and innovation and promoting research and development in priority sectors for social transformation.



9. Distribution of Lab-in-a-kit:

To enable students to understand scientific principles by 'hands on - minds on' concept, Lab-in-a-kits containing predesigned concept-based experiment modules have been distributed to 169 Govt. Girls High Schools across the State.

10. Science Outreach Programs:

In addition to above science activities, a large number of Science Outreach and Educational Programs such as conferences, workshops, seminars, science quiz, lecture series, sky observations and science exhibitions were organized at regular intervals for promotion of science and technology in association with other DST organizations, Science Centers and Educational Institutions across the State.

11. Puneeth Satellite Project:

To create scientific temper and awareness on advanced technologies among students, 'Puneeth Satellite' project is being implemented in collaboration with Indian Technology Congress Association and ISRO at a cost of Rs. 190.00 lakhs. Under this program, designing and development of a nanosatellite is being done through high school students of the Bengaluru division. The nanosatellite is expected to be launched in the next three months.

12. Maintenance of Mini Science Resource Centres

Mini Science Resource Centres have been established in selected Govt. High Schools of backward taluks viz., Kanakapura, Pavagada, Sindhgi, Bilagi, Malavalli, BR Hills, Mudhol, Gubbi, Kollegala, Hosadurga, Kadur, Laxmeshwar (Shirahatti Taluk), Mandya, Maddur, Madugiri, Magadi, Saaligrama, K.R. Nagar, Malleshwaram and Yashwanthapura to make rural students understand the science topics on 'hands-on, minds-on' concept. The establishment of these centres has helped the students for better understanding of scientific principles.



13. Assistance to Scientific Institutions

KSTePS is involved in releasing of grants to subsidiary organizations of the Department namely, Karnataka Science and Technology Academy, Karnataka State Council for Science and Technology, Jawaharlal Nehru Planetarium, Dharwad Regional Science Centre and Pilikula Regional Science Centre, Mangalore as well as various other institutions and Sub-Regional Science Centres. Also, KSTePS is coordinating, monitoring and evaluating the implementation of various programs of the Dept. Details of the programs conducted by each organization/ Science centre is given in their respective report.

Contact:

Manging Director

Karnataka Science and Technology Promotion Society (KSTePS)
#24/2, Vijnana Bhavana, 3rd floor, 21st Main Road,
Banashankari 2nd Stage, Bengaluru-560070

Phone: 080-26711166/77

Email: ksteps.dst@gmail.com

KARNATAKA STATE COUNCIL FOR SCIENCE AND TECHNOLOGY

Indian Institute of Science Campus, Bengaluru-560012

Introduction:

Karnataka State Council for Science and Technology (KSCST) an autonomous S&T organization under Department of Science & Technology, Government of Karnataka established in the year 1975 is one of the first State S&T Councils to be set up in the country. KSCST, ever since its inception has been making significant contributions in the broad areas of Water, Education, Energy, Housing, Geospatial Technologies for Planning & Development, Natural Resource Management and Infrastructure. During the last 47 years of its existence. KSCST has been pro-actively engaging itself to identify, propose and implement S&T based solutions to locale specific needs/problems. In association with the Indian Institute of Science and several other premier R&D institutions, KSCST has been executing many projects and programs aimed at improving socio-economic conditions is the people of the State. Over the years, a number of technologies have been translated from research and demonstration phase to the implementation and operational phase. KSCST provides support to the State Government in formulation of S&T based policies. Also supports Central and State Governments in scientific surveys, project implementation, evaluation, co-ordination & monitoring, organization of scientific meets and awareness campaigns.

I.A) Natural Resources Data Management System (NRDMS) – Karnataka Project

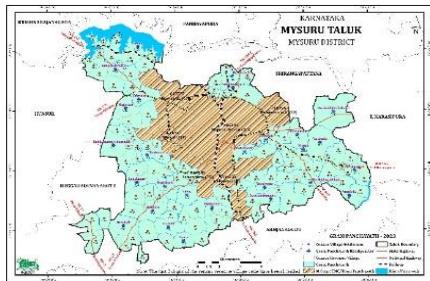
- Associated with Department of Science and Technology in organizing the Second **United Nations World Geospatial Information Congress (UN-WGIC)** in Hyderabad International Convention Centre (HICC) held on October 10-14, 2022.
- As part of UN-WGIC a pre-event was organized through a virtual platform on 21st and 22nd April 2022 to identify the potential technologies to be flagged during this event. The speakers were from government sector, research and academia, industry, youth and civil society. The webinar focused on the importance, advancements and applications towards Geo enabling the Global village. Participants included faculty, students, government and non-government officials.



Geo-Enabled Good Governance Practices in Karnataka

Geo-Enabled Governance practiced for more than a decade.
All departments have to mandatorily share data of their physical assets which is uploaded on <https://gis.kscst.ac.in/gis/>
K-GIS portal with 600 layers institutionalises use of Geospatial Technologies.
Natural Resources Data Management System set up District level for de-centralised planning.
The state is committed to use the geospatial information to achieve SDGs – Leaving No one Behind.

- Geospatial action plan on developmental indicators (Health, Agriculture, Education, PED & MI etc).
- Report on sustainable development goals for Karnataka.
- Gram Panchayath Atlas – 2023.
- NRDMS staff coordinating Jal Sanjivani, Jal Jeevan program, Disaster Management of Karnataka by providing training and capacity of building GP functionaries.
- Continuous updation of data (PRIs, Election Jurisdiction, Administrative Boundaries etc).



B) Karnataka Geoportal

- Provides geospatial data, information and services over internet to all stakeholders. Established National Data Registry sub-portal in Karnataka and cloud services for National Spatial Data Infrastructure.
- KSCST as a nodal agency for “Interim Data Sharing Framework (IDSF)” coordinating with for effective sharing of digital geospatial data.
- KSCST as a member in NSDI Working group providing inputs on data standards and sharing.

II. Academia and Industrial Interaction cell activities

a) Student Project Programme (SPP):

- i. **45th Series** was initiated in October 2021. The council had received 5,191 project proposals from 192 science and engineering institutions across the State, of which a total of 1,230 projects were supported for funding totaling Rs. 80,21,800/-. A total of 4515 students has been benefitted out of this program. A total of 1506 Faculty from 170 science and engineering institutions / universities have been involved in this programme. The midterm evaluation of supported projects was held during May 2022. A total of 332 projects were selected for state level seminar and exhibition held at Visvesvaraya Technological University (VTU), Belagavi on the 12th and 13th of August 2023.

During the seminar and exhibition, the student's team exhibited their projects and some of the students gave a seminar on their project findings and interacted with various students and faculty. A total of 75 projects were awarded “Best Project of The Year” and Sri Sairam College of Engineering, Anekal, Bengaluru Rural was awarded “Best Performing College of the Year”.



ii. 46th Series: 2023

KSCST initiated the 46th series by inviting project proposals from the final year students of B.E., M. Tech, M.Sc., M.Sc./M.Tech (Agri) and M.B.A. from institutions across the state. Students can submit the proposal till 24th February 2023.

b) Faculty Project Programme (FPP):

To scale up, enhance and commercialize the ideas proposed in SPP, KSCST initiated Faculty Project programme. Under this programme, 94 project proposals from the respective faculty / guides of the projects awarded under SPP were submitted. Out of which 16 projects have been supported.

FPP: Science, Technology and Innovation (STI) Interventions in the State: 2022 – 23

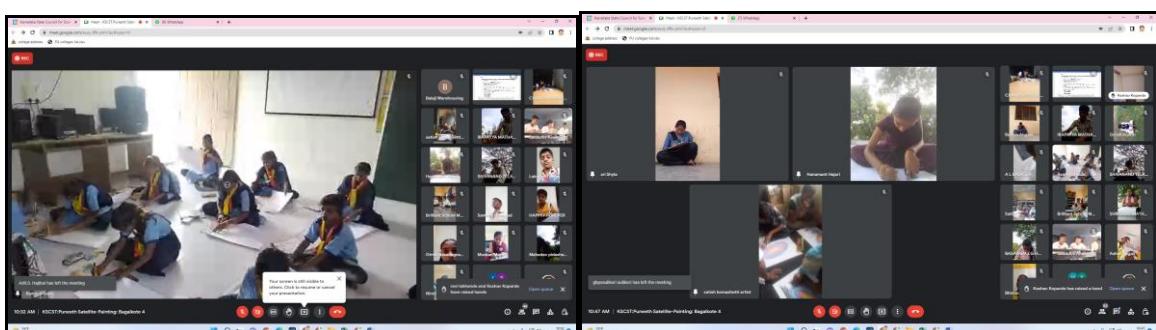
Invited proposals from the faculty of science and engineering institutions of Karnataka on STI Interventions. Council received 627 projects out of which 11 projects were shortlisted for funding.

c) Children Centric Programme of Puneeth satellite:

On the occasion of 75 years of independence, India is going to launch 75 satellites into space built by school and college students. A satellite built in Karnataka is named as Puneeth Satellite, formerly known as "Karnataka Government School Students' Satellite-KGS3Sat". As part of this programme, KSCST organised "Children Centric Programmes" aimed at creating awareness on satellites and astronomy among high school and PU students. Top performing students in the children's centric programs will be given an opportunity to witness the satellite launching at Shriharikota. Quiz and on-spot science painting competitions were organized for high school students. Essay and poster presentation competitions were organized for PUC students. Competition is held in two levels, level one is at district / divisional and level 2 is at state level. An around 2 lakh students have registered in above activities and around 300 students are selected as winners.



Honorable Minister Dr. C. N. Ashwath Narayan chairing the discussion meeting



View of painting competition

d) Azadi ka Amrit Mahostav: Vigyan Utsav (April May June July August)

On the occasion of celebration of 75th Independence Day our Hon'ble Prime Minister has desired to infuse new energy among countrymen by showcasing and celebrating achievement of last 75 years through Amrit Mahostav. Vigyan Utsav was a yearlong program where state S&T councils showcased their STI ecosystem and its contribution towards Atmanirbhar Bharat. Every month Vigyan Utsav was celebrated on respective theme. Webinars related to the vigyan utsav were organised from September 2021 to August 2022 through online mode. An around 150 participants participated in every program.



Prof. D. K. Subramanian delivering a talk

e) Nature Camp:

Under the project title “Innovation in teaching to improve quality of education for teachers/students through workshop/camp in the tribal regions of Karnataka”, with the support of Vigyan Prasar (VP), DST, Gol organised “**Nature Camp**” for high school students during 22-25 August, 2022. Around 100 high school students from tribal community participated in the camp. Camp involved in demonstration of experiments on Newton’s law, soil culture, soilless culture, drip irrigation and hand on activities on animal & plant habitat.



III. Patent Information Centre:

PIC organised capacity building programs across the IP spectrum (Patents, Trademarks, Copyrights, Industrial Designs, Plant Variety Protection and Geographical Indications). The programs are in the nature of seminars, camps and workshops across the state.

Established 12 IP cells in Universities, Engineering Institutions, Science, Law and Agricultural colleges. Conducted more than 51 IPR workshops / awareness program/course for faculty, students, startups and individuals. Facilitated filing 5 trademarks, 5 copyrights, 3 FER replies and also generated 118 prior art search reports.

KSCST received the **Special Citation Award 2022** under Special citation for Patent Information Centre (PIC)" at National IP Awards 2022 held at Dr Ambedkar International Centre, New Delhi.

As an initiative under make in India, KSCST is developing app based networking platform called "**IP-trade-kart**" (**IPTK**) for commercialization of IPR. That benefits patent holders and the clients in commercializing their IP.



Mr. H. Hemanth Kumar Executive Secretary, KSCST receiving Special Citation Award 2022 from Hon'ble Minister Shri Piyush Goyal - Ministry of Commerce and Industry, Gol



Inauguration of JSSHER- KSCST IP Cell at JSS Academy of Higher Education and Research Mysuru

IV. Energy Cell activities:

- With the support of Schedule Tribes Welfare Department (STWD), Government of Karnataka, implement establishment the Non-Timber Forest Production Collection Enterprises (NTPCE) at LAMP Society Federation at Mysore and Koppa. NTPCE Enterprises consists honey, amla and shikakai processing plants.
- Celebrated World Biofuel Day (WBD) on 24th August 2022 at Krishi Vigyana Kendra (KVK), Bidar.
- Under 45th SPP 41 (BE-35, M.Tech-01, MBA-02 & M.Sc-03) projects related to bioenergy were supported with total budget of Rs.3,80,000/-.
- Review meeting of coordinators of Bioenergy Research, Information and

Demonstration Centre (BRIDC) was held on 24th - 25th August 2022 and 6th December 2022 at Bidar and UAS, GKVK Campus, Bengaluru respectively.

- 13 graduation students completed Internship on bioenergy projects

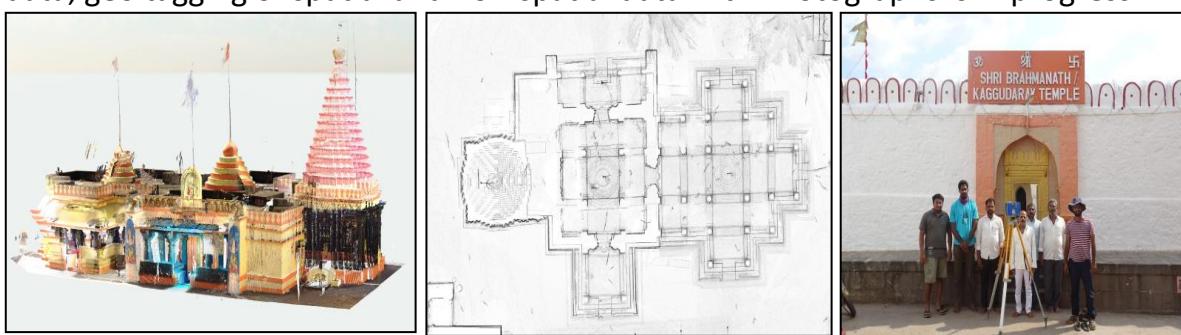


V. State Awards for Scientists and Engineers

With a view to recognize and reward Scientific and Technological talent in the state, the Department of Information Technology, Biotechnology and Science & Technology, Government of Karnataka has instituted several awards to the Scientists and Engineers of the state who have made significant contribution towards the development of the State in various fields of Science and Technology. These awards are being given every year since 1996. KSCST has been entrusted with the responsibility of facilitating the selection process and awards presentation programme in consultation with the Government. State Awards for the years 2020 and 2021 has been presented to 28 Scientists and Engineers by the Hon'ble Chief Minister of Karnataka on March 23rd 2023.

VI. Karnataka Digital Heritage

Karnataka Digital Heritage digitizes heritage sites using 3D laser scanning technologies. The objective is to create virtual walk through and for reconstruction/restoration. The scanned data generates 3D point cloud data, 3D mesh models and CAD Engineering drawings of monuments. Completed scanning of 640 heritage monuments out of 844 identified monuments. Creation of geo-spatial data, geo tagging of spatial and non-spatial data with Photographs is in progress.



VII. A) Rainwater Harvesting Cell

The RWH Cell has been providing technical support to public/private institutions and organisations in implementing Rain Water Harvesting by providing Detailed Project Report (DPR) containing Roof water yield, Estimation and drawings. RWH Cell provided technical guidance and submitted DPR to 10 Government and Private

Organizations during the year 2022-23. Organisation including Mysuru Airport, Gulbarga University, Karnataka Soaps & Detergents Limited, Mantri Apartment etc., have been implemented with RWH systems.



Field survey for RWH at Mysuru Airport, Mysuru RWH Installation at NCDIR, ICMR, Bengaluru

B) RWH help desk - rainwater harvesting and ground water recharging

- Help Desk of RWH established at Jayanagar, Bengaluru organizes awareness and training program on rain water harvesting in association with BWSSB
- Around 87 training programmes and 150 awareness programs has been conducted since inception for architects, plumbers, contractors, engineers and general public since inception.
- So far 75,000 including government officials, VIPs, NGOs and about 45,000 students have been benefitted.
- Around 1,75,000 residential properties have been installed RWH Systems in Bengaluru city



Awareness at APS Public school, Bengaluru & 87th RWH Training Programme at RWH Theme Park RWH

VIII. KSCST Regional Centre, Kalaburagi

Since inception, regional centre is carrying out various S & T based activities. The programmes such as 3D laser scanning of heritage monuments of Kalaburagi division, RWH workshop for engineers & contractors, celebration of world earth Day-2022, National Technology Day-2022, World Environment Day-2022, World Biofuel Day, Engineers Day-2022, International year of Glass-2022, celebration of NMD 2022 and one day training

for Farmers on “Improvement of Income in Agriculture using latest Technology” been organized.



World Bio-Fuel Day-2022 at Afzalpur Farmers Training Programme at KVK, Kalaburagi

IX. Centre of Excellence in Cyber Security (CySeck)

CySeck established to promote cyber safe and conducive environment for all stakeholders. The centre is pursuing industry collaboration, skilling programs, funding to R&D projects, support to startup & innovation in this emerging technology field of Cyber Security. has made substantial progress under the following categories.

- Awareness: Awareness through Twitter, monthly bilingual newsletter, Cybersecurity awareness etc.
- Skill building: Partnering with organisations including NASSCOM. A total of 827 students completed the course, and 278 of them participated in a Grand Challenge Capture-The-Flag competition. Internships for 106 students were facilitated through this programme, including 10 internships at NCIIPC.
- Industry & Startups: strengthening of H.A.C.K. programme and supporting startups.
- Government: Multiple discussions and a workshop were conducted with CeG (Centre for e-Governance) to explore opportunities for the CoE to support CeG on their cybersecurity requirements.

X. The Centre of Excellence in Aerospace & Defense

An initiative by Government of Karnataka (GoK) to provide Skill Enhancement for Engineering Graduates / Students largely in Aerospace and Defense (A&D) domain in collaboration with Visvesvaraya Technological University (VTU) and Karnataka State Council for Science & Technology (KSCST) as Implementation Agency

The courses offered at Centre of Excellence in Aerospace & Defense (CEAD) are aimed at providing right mix of theory and laboratory exposure in state-of- the art software tools and processes to the students such that at the end of the course, the students would come out with essential knowledge in air vehicle development. These courses are delivered by Aerospace Industry experts.

XI. Scientific audit of the schools coming under Karnataka Residential Educational Institutions Society (KREIS)

Department of Social Welfare invited KSCST to conduct Scientific Audit of the KREIS schools. The scientific audit aims towards pointing out system deficiencies with a

view to assist the department and the role of audit is complementary to the efforts of the department to improve the managerial practices in school administration.

The audit team with expert members from ISEC, IISc, and NLSIU visited around 40 KREIS schools across Karnataka and inspected with various parameters like buildings, classroom, playgrounds, laboratories, library, computer, ICT, internet facilities, equipment, ramp, Sewage Treatment Plant, UPS, Water purifier, Kitchen, dining hall, hostel facility, food, hygiene, quality accommodation, size of rooms, dormitory, toilet (separate for boys, girls, staff and differently abled people) drinking water, solar, electrification etc and to identify problems and bring them to streamline for smoothening day to day functions in management, upgradation these parameters that can be implementing and supervising institutions. Draft detailed report has been prepared and circulated among the expert members.



XII. Providing ICT infrastructure for implementation of digital literacy in KREIS residential science PU colleges

KSCST is establishing “ICT Infrastructure for Implementation of Digital Literacy in KREIS Residential science PU Colleges” by providing laptops (teaching and learning process), projectors, library books, network connectivity and computer lab (All in one PC desktops) at 61 KREIS PU Colleges across Karnataka under HAL CSR funds. The project cost is Rs. 3.64 cr. Establishment of digital learning centre is in process.

XIII. Schedule Caste and Schedule Tribe (SC/ST) Cell

- Web-based training finder android application – “Bheem Kaushalya – KSCST” Theme, district and skill based search for identifying skill trainings including employment opportunities under various agro-climatic zones.
- Training programme on post-harvest technology of fruits & vegetables for SC/ST Communities Association with – **Indian Institute of Horticulture Research (IIHR), Hessaraghatta, Bengaluru during September 2022**
- KSCST supporting Safai Karamchari Commission in identifying right kind of materials and equipment's fit for work force employed by towns and municipalities for managing solid waste.
- Two-day conclave – “Science and Technology empowerment of rural community”. Visit by Honorable minister for Tribal Affairs, Gol Shri. Arjun Mundaji, DST, Gol,

Secretary Prof. S. Chandrasekhar, Prof. T G Sitaram, Director, IIT Guwahati and Vice Chancellors of Tribal Universities and other participants.



View of Bhim app and training programme on post-harvest technology of fruits & vegetables



Honorable minister for Tribal Affairs, GoI Shri. Arjun Mundaji visiting KSCST stall

Contact:

Secretary

Karnataka State Council for Science and Technology (KSCST)
Indian Institute of Science Campus
Bengaluru-560012
Phone: 080- 23341652, 22932212
Email: office.kscst@iisc.ac.in

KARNATAKA SCIENCE AND TECHNOLOGY ACADEMY

Prof. U R Rao Vijnana Bhavana, Horticultural Science College Entrance, GVK Campus,
Major Sandeep Unnikrishnan Road, Doddabettahalli,
Vidyaranyapura Post, Yelahanka, Bengaluru – 560 097

Karnataka Science and Technology Academy, a Unit of the Department of Science & Technology, Government of Karnataka, has been functioning since 2005, with the objectives of inculcating scientific temper across civil society through science communication, technology dissemination, fostering innovations and entrepreneurship for societal benefits, recognising talents and organising outreach programmes, capacity building and acting as STI Policy Advisory Body for the State.

Presently, Padma Shri Prof. S Ayyappan, Chancellor, Central Agricultural University, Imphal and Former Director General, ICAR/ Secretary, Department of Agricultural Research and Education, GOI is the Chairman. KSTA has 15 members, including special invitees, comprising of renowned educationists, distinguished scientists and senior administrators.

Majour programs conducted during 2022-23 (up to January 31, 2023 are as follows:

1. Webinar and Physical Programs

During FY 2022-23 up to January 31, 2023, 30 programs related to frontier areas of science and technology were conducted through Video Conference (VC) and Physical mode in association with research institutes/ science forum/ educational organizations. About 2500 participants benefited by these programs.

Webinar

Sl. No	Date	Program Title	Associate Institution/ Organisation
1	April 7, 2022	'6/6: Eye Care' - Dr Arun Adkoli	
2	April 18, 2022	'Rare Genetic Disease Diagnosis' - whole-exome & whole-genome Sequencing	
3	April 19, 2022	'Magic of Pi' - Prof. Sarmishta Sahu	
4	May 7 2022	Science and Technology Education in Kannada	e-Jnana and Surana College
5	June 2-4, 2022	3-D Printing for Innovative Research and Knowledge Development	Jyothy Institute of Technology, Bengaluru
6	June 4, 2022	Science and Technology Journalism for Women Writers	Vigyan Prasar, New Delhi and Kuthuhali

7	June 8, 2022	World Ocean Day – Theme- Revitalization : ‘Collective Action for The Ocean’ - Dr N Ramaiah	
8	June 29, 2022	Talent Search Program: Thermodynamics by Dr Dr G. K. Venkatesh	KSTePS, GOK
9	June 30, 2022	Talent Search Program: Elements in the Human Body By Dr. C. K. Manjunath	KSTePS, GOK
10	June 28 - July 04, 2022	Biotechnology Workshop – Skill Vigyan Program	KTECH, GOK
11	August 22 - 26, 2022	Hydro-Geological Engineering	JNNCE Shivamogga
12	September 9, 2022	James Webb Space Telescope	Sheshadripuram First Grade College, Bengaluru
13	September 18, 2022	2nd Virtual National Conference on “Space Science and Technology for School Students”	ISIE Ahmadabad, People Science Forum, KRVP, Mysuru and Space Geek
14	September 21-23, 2022	62nd Annual International Conference - “Microbes and Society: Current Trends and Future Prospects”	Association of Microbiologists of Indian and University of Mysore, Mysuru
15	September 23-25, 2022	Teachers Training Program	-
16	October 01-14, 2022	Science Talent Search Program (Oct: 1, 6, 7, 10, 11, 14)	KSTePS, Bengaluru
17	November 01-30, 2022	Science Talent Search Program (Nov: 3,5,7,8,14,15,23,25,29,30)	KSTePS, Bengaluru
18	November 21-23, 2022	Nobel Prize Lecture Series 2022	-
19	November 21, 2022	Re-Search’22	SRN Adarsh College, Bengaluru
20	December 12-14, 2022	Agripreneurship Development	Manage, Hyderabad
21	December 17, 2022	Panel Discussion on Good Governance: Panel comprising of KSTA Fellows	
22	December 22, 2022	Special Talk on Good Governance: Shri M N Vidyashankar IAS and Prof. Gopal Naik	-
23	December 01-31, 2022	Science Talent Search Program (Dec: 1,2,5,7,21,22,26,27,28,29,30,31)	KSTePS, Bengaluru

Physical Programs

Sl. No	Date	Program Title	Associate Institution/ Organisation
1	October 06-12, 2022	Skill Vigyan in Biotechnology	KITS &Department of Biotechnology, Govt. of India
2	October 08, 2022	'Vijnana Sanje' (Resource expert: Dr. Na Someshwara)	Kutuhali, Vijnan Prasar, New Delhi
3	October 18-19, 2022	Science and Technology Content Translation	Kutuhali, Vijnan Prasar, New Delhi
4	November 12, 2022	Vijnana Sanje' Resource expert: Prof. VijayaRaghavan	Kutuhali, Vijnan Prasar, New Delhi
5	December 10, 2022	Vijnana Sanje'	Kutuhali, Vijnan Prasar, New Delhi
6	December 13-17, 2022	Research Methodology and Data Analysis	VTU, Belagavi
7	December 22, 2022	Vijnana Vismaya 2022	Sri Sai Science & Commerce College, Darawada

2. Science and Technology Annual Conference

KSTA and Siddaganga Institute of Technology, Tumakuru jointly organized a three-day National Conference on "Science & Technology for Start-ups" during July 19-21, 2022. The conference was inaugurated by Shri Jyothi Ganesh, Member of Legislative Assembly, Tumakuru, with an introductory address from Prof. S. Ayyappan, Padma Shri Awardee, Chairman, KSTA, Bengaluru and the key note address was delivered by Dr. K.P.J. Reddy, Former Professor, Department of Aerospace, IISc, Bengaluru. Sri T.K.Nanjundappa, Secretary, SSES presided over the inaugural function. Dr. A.M.Ramesh, Chief Executive Officer, KSTA, Dr. Shivakumaraiah, CEO, SIT, Dr. S.V.Dinesh, Principal, SIT and Dr. C.P Lohith, Convener NCSTS 2022, Faculty Coordinator, Siddaganga TBI were present during the inauguration.

The three-day event witnessed a galaxy of experts from scientific community, policy makers, Technology Experts, Innovators, successful and budding young entrepreneurs sharing their knowledge in the conference. More than 500 delegates consisting of students, research scholars, faculties, entrepreneurs from

the state of Karnataka and elsewhere attended the event. As part of the event, 91 scientific papers were presented in the form of posters in various areas like Physical Sciences & Mathematical Sciences, Chemical Sciences, Engineering & Technology and multi disciplinary science.



3. Science and Technology Conference in Kannada

Fourth Science and Technology Conference in Kannada was organized in Bidar in association with Karnatak Arts, Science & Commerce College during September 14-16, 2022. Invited talks by scientists, leading science writers and communicators were organized. In addition, apart from poster presentation were made by research scholars in Kannada. The conference was inaugurated by Prof. H. A. Rajasab, Former Vice Chancellor, Tumkur University/Member, KSTA. Dr. Suresh Jangamashetty, Chairman, Department of Electrical and Electronics, Basaveswara Engineering College, Bagalakote graced the occasion, while the inaugural session was preside over by Shri Basavaraj Jabashetty, Chairman, Karnataka National Education Institute, Bidar. Around 500 participants from Kalyana Karnataka region attended the conference and 170 posters were presented during the conference.



4. Skill Vigyan in Biotechnology

KSTA-DBT-Skill Vigyan Program in Biotechnology is a 15 days Faculty Training Program (FTP) for the pre-university/UG/PG teaching faculty and mid-career scientists of various colleges/universities/educational institutes from Karnataka State to gain theoretical as well as practical knowledge in new trends in biotechnology with the funding support of the Department of Biotechnology, Govt. of India through the Karnataka Innovation and Technology Services (KITS), Dept. of Electronics, Information Technology & Biotechnology, Science and Technology, Govt. of Karnataka.

KSTA has successfully conducted the FTP program on “Skill Vigyan in Biotechnology” on a hybrid mode for 2 weeks [one week online and one week offline] at KSTA premises for about 25 biology lectures of various colleges/universities/educational institutes from the state. Resource Experts from the renowned academic and research institutes were invited to deliver distinguished talks along with hands-on training. Exposure visits to different R&D laboratories and institutions in and around Bengaluru was also arranged.

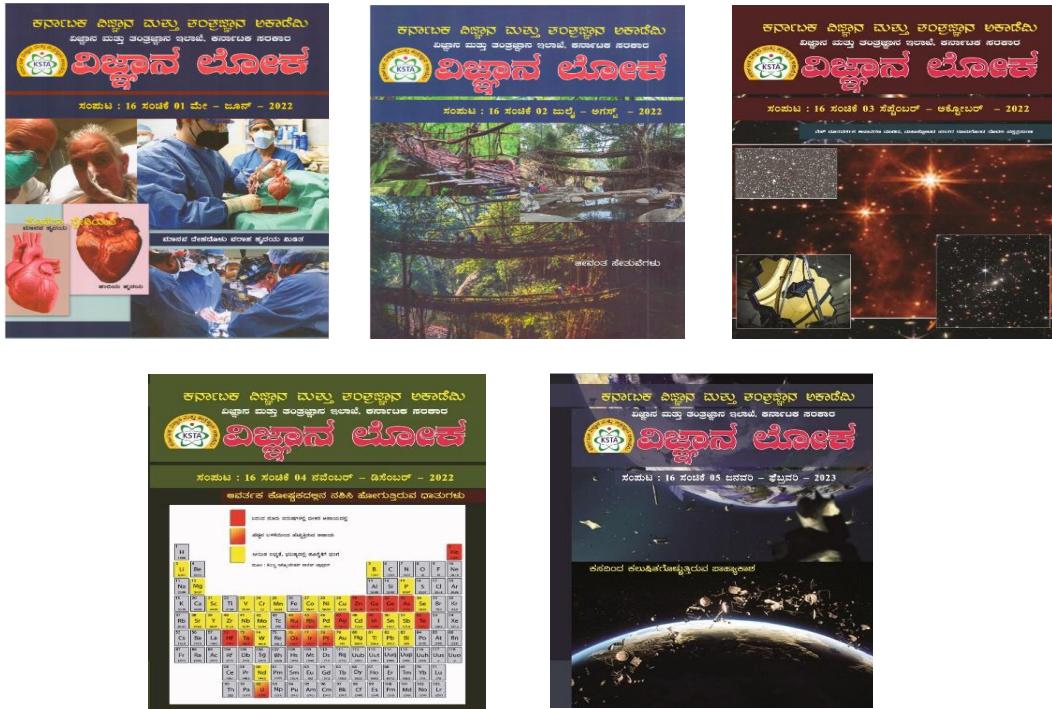


5. KSTA Publications

5.1 *Vijnana Loka*

‘Vijnana Loka’, a bimonthly science magazine is being regularly published in Kannada since August 2007. During FY 2022-23 up to January 31, 2023, Five issues of the magazines were published. 2000 copies of each issue were distributed to subscribers comprising of pre-university and science degree colleges, science

centres, libraries and other organizations across the state. All the issues of Vijnana Loka magazine were made available in the KSTA website: www.kstacademy.in



5.2 *Frontiers of Science and Technology - Vijnana Loka Special Issue*

Vijnana Loka magazine is being published regularly in Kannada for 16 years under the editorship of Dr. P. S. Shankar. Four special issues have been published till date. One more special issue of 136 pages entitled 'Samshodanegala Munchuniyalli' and comprises of 25 articles on science and technology written by renowned science writers has been brought out.



5.3 *Strategy Paper-2 : Valuation of Terrestrial Ecosystem Services*

The valuation of ecosystem services (VES) provides an unbiased framework to value unaccounted ecosystem benefits and also helps in developing meaningful policy interventions. In this perspective, KSTA has brought out this Strategy Paper focusing on "Valuation of Terrestrial Ecosystem Services", and is an effort of a

group of eminent scientists led by Prof. T.V. Ramachandra, Coordinator, Energy and Wetlands Research Group, Centre for Ecological Sciences [CES], IISc. This exercise in other states will undoubtedly play a vital role in conservation, planning and ecosystem-based management in India.

5.4 Approach Paper - 2: Promoting Mineral Exploration, Mining and Mineral Processing in Karnataka : Way Forwar Services

Karnataka state, which is rich in its resource potential for producing several metals and minerals, from the Pre-British era, is one of the biggest industrial hubs in the country. KSTA has brought out this Approach Paper to Promote Mineral Exploration, Mining, and Mineral Processing in Karnataka, keeping in mind the existing gaps, challenges and opportunities. This document is prepared by an expert group led by Dr. Prabhakar Sangurmath, Former Executive Director & Member, Board of Director, Hutt Gold Mines Co. Ltd.



5.5 Year Book 2023

Every year KSTA invites nomination for Fellowship of KSTA (FKSTA). The nominations received were scrutinised by Awards & Fellowship Selection Committee and approved by Executive Committee. 51 Fellowships were awarded for the year 2022 among 12 domains. A Year Book comprising the details of Fellows, Associates, Institutional Members and Institutions having MOU with academy was brought out during third quarter of FY 2022-23. This document consists of details of 177 KSTA Fellows, 08 Institutional Members, 02 Institutional Associates, 94 Associates and 54 organisations having MOU with KSTA (as on November 2022).

5.6 Quarterly e-Newsletter-Vijnana Vahini

Bring out quarterly e-newsletter 'Vijnana Vahini' in Kannada and English. The newsletter comprises of invited article, events and upcoming programmes of the Academy and current Science news. During FY 2022-23 upto January 31, 2023, 03 issues have been Brought out



6. Digital Content Generation

Digital learning contents are being developed for the high school students in Physics, Chemistry, Mathematics and Biology as per the Karnataka Secondary Education Examination Board (KSEEB) syllabus in Kannada and are being disseminated through DVD to the selected Government High Schools in backward taluks across the State. Till date, DVDs comprising of 70 lecture/experiments were sent to 400 Schools. This Program is supported by KSTePS

7. Science Talent Search Program for Pre-University Students

KSTA, in association with KSTePS, has organized Science Talent Search Program for Pre-University Students. In this program, 10 meritorious PU students from each district, totaling to 320 students from the State were selected based on merit. During 2022-23 until January 31, 2023, 60 online talks by eminent scientists in physics, chemistry, biology, engineering, and agricultural sciences were organized for the selected students. Around 3600 students are benefited by this program.

8. IP in Academics: Patents

A one-day workshop on patents was jointly organized by KSTA and The Karnataka State Council of Science and Technology (KSCST) on January 30, 2023. A total of 42 students, including faculty of engineering and science, research scholars and professors, from different parts of the state were participated in the workshop.

9. KSTA Awards, Fellowships and MOUs

Prof. C.N.R. Rao-KSTA Lifetime Achievement Award for the year 2022 and the KSTA Lifetime Achievement Award in STEAM communication in Kannada were presented on August 02, 2022. These awards carry a gold medal, cash prize and an honorary fellowship of the Academy.

Hon'ble Minister of Higher Education, Electronics, Information Technology, Biotechnology and Science and Technology, Skill Development, Entrepreneurship and Livelihoods, Government of Karnataka Dr. C. N. Ashwath Narayana honoured the selected scientists with the awards and fellowships. Prof. A. K Sood, Principal Scientific Advisor to the Hon'ble PM graced the occasion as Chief Guest. Padma Shri Awardee & Chairman, KSTA Prof. S. Ayyappan, Shri A. B. Basavaraju, IAS, Director (Technical), DST, Govt. of Karnataka and Dr. A M Ramesh, CEO, KSTA were present on the occasion.



9.1 Prof. CNR Rao Lifetime Achievement Award in STEAM

Following senior scientists/technologist have been awarded with Prof. C. N. R. Rao-KSTA Lifetime Achievement Award for the year 2022.

Year	Awardees
2022	Dr. C. A. Viraktamath , Retired Emeritus Professor, University of Agricultural Sciences, Bengaluru Dr. T. Shivanandappa , CSIR Emiretus Professor, University of Mysore, Mysuru



Dr. C. A. Viraktamath
Retired Emeritus Professor
University of Agricultural Sciences, Bengaluru



Dr. T. Shivanandappa
CSIR Emiretus Professor
University of Mysore, Mysuru

9.2 KSTA Lifetime Achievement Award for STEAM Communication in Kannada

Following renowned communicators were awarded with KSTA Lifetime Achievement Award for STEM communication in Kannada for the year 2022.

Year	Awardees
2022	Dr. N. Someswara , Medical Doctor & Renowned Quiz Master, Bengaluru Dr. K. V. Rao , Director, Pilikula Regional Science Center, Mangaluru



Dr. N. Someswara
Medical Doctor & Renowned Quiz Master,
Bengaluru



Dr. K. V. Rao
Director, Pilikula Regional Science Center,
Mangaluru

9.3 Best Book Award in Science, Agriculture, Technology & Medicine

In order to encourage publication of Kannada books in the field of agriculture, science, technology and medicine, KSTA has been providing best book award for the selected books once in two years. The authors of each selected book will be felicitated with a cash price of Rs. 25,000/- along with a certificate. A total of 71 books have been received for the year 2022, evaluation is in progress. Award will be given during the month of March 2023.

9.4 Awards for Young Innovators (UG & PG Students) and Innovation by General Public

Exemplary innovations/ solutions emanating from Science & Technology or any segment of economy that have helped transform the lives of people, particularly in rural areas or have enabled enterprises and employment would be recognized every year. The three categories of Award includes are Dr S. K. Shivakumar Award for best innovation at undergraduate level; Prof. U. R. Rao Award for best innovation at postgraduate level; and KSTA Award for best innovation by General Public, each award carries a cash prize of Rs 10,000 each and a Certificate. 104 applications have been received for the award 2022. The award will be conferred during March 2023.

9.5 KSTA Fellowships and Associateship

KSTA is providing fellowships, institutional memberships and associateship to recognize the contributions of academicians, researchers, engineers, technologists and young professionals in the field of science and technology, science communication/popularization and dissemination.

9.5.1 Fellowships (FKSTA)

Based on recognizable individual merit and contribution to STEAM and recommendations of KSTA-Awards and Fellowships Selection Committee (AFSC), 50 fellowships were conferred during the year 2022-23.

Sl. No.	Name	Sl. No.	Name	Sl. No.	Name	Sl. No.	Name
1	Prof. A. K. Sood	14	Prof. Jagadeesh G.	27	Prof. Rabinal M.K.	40	Dr. Subarna Roy
2	Dr. Abraham Varghese	15	Prof. Jagadish R. Tonannavar	28	Dr. Rajani M.B.	41	Dr. Sudarshan H.
3	Prof. Adimurthi A.	16	Dr. Jali M.V.	29	Dr. Ramachandra T.V.	42	Prof. Thimme Gowda B.
4	Prof. Amruthesh K.N.	17	Dr. K.V. Rao	30	Prof. Ramesh S. R.	43	Prof. Uma Shaanker R.
5	Dr. Arun C. Inamadar	18	Dr. Kurpad A.V.	31	Prof. Rangaswamy B.E.	44	Prof. V. Ravishankar Rai
6	Prof. Bagyaraj D.J.	19	Dr. Lalitha R. Gowda	32	Prof. Revanasiddappa H.	45	Prof. Veerappa Gowda G.D.
7	Prof. Balasubramanian A.	20	Prof. Manohar V. Kulkarni	33	Prof. Roopa K.M.	46	Prof. Venkataraman A.
8	Dr. Bhaskar N.	21	Prof. Murthy K.N.B.	34	Prof. Shankar K.M.	47	Prof. Vijayalakshmi Dega
9	Dr. C. L. L. Gowda	22	Dr. N. K. S. Gowda	35	Mr. Siddique M.Z.	48	Prof. Viraktamath C. A.
10	Prof. Dandin S.B.	23	Prof. Naduvinamane N.B.	36	Dr. Someswara N.	49	Dr. Vishal Rao
11	Prof. H.R. Ramakrishna Rao	24	Prof. Navakanta Bhat	37	Dr. Sridevi A. Singh	50	Dr. Viswanath S.
12	Prof. Honnappagol S.S.	25	Dr. Navalgund R. R.	38	Dr. Sreekanthswara Swamy S.G.		
13	Prof. Indiresh K.M.	26	Dr. Prasad C.S.	39	Dr. Srikrishna Isloor		

9.5.2 Institutional Membership

During the year 2022-23, the following institution has obtained institutional members of KSTA and a total of 09 institutions were obtained institutional membership of the Academy.

Name
Seshadripuram First Grade College, Yelahanka, Bengaluru

9.5.3 Associates

Academics/Researchers/Teachers/Practitioners in any branch of Science, Technology, Engineering, Agriculture and Medicine, working or retired from Educational/Research and related organizations including Corporate, are being admitted as associates. Individuals who are desirous of becoming Associates of KSTA may do so by paying a fee of Rs. 1,000/- (Rupes One thousand only), and submitting a duly filled application form available in the KSTA website throughout the year. 102 applicants have been admitted as Associates.

9.5.4 MOU and collaborations

KSTA has tied up with various institutions, universities and colleges to conduct various activities and programmes in collaboration with each other with the following objectives:

- Inculcating scientific temper across civil society through science communication
- Facilitating technology dissemination through Academia-Farm-Industry interface, with a focus on rural areas
- Fostering innovations and entrepreneurship for societal benefits
- Organising conferences & outreach programmes
- Capacity building in frontier areas of Science & Technology
- Any other aspects with mutual consent

9.5.5 During FY 2022-23, MOU with the following 08 organisations/institutions were signed and till date 54 MOUs with organisations/institutions were signed.

Sl. No.	Organisations/Institutions	Date of MOU
1	<i>Dayananda Sagar College of Engineering, Bengaluru</i>	07-04-2022
2	<i>BLDEA's V.P. Dr. P.G. Halakatti College of Engineering and Technology, Vijayapura</i>	09-05-2022
3	<i>B.L.D.E. Association's Shri Sanganabasava Mahaswamiji College of Pharmacy And Research Centre, Vijayapura</i>	11-05-2022
4	<i>Manipal Academy of Higher Education, Manipal</i>	18-05-2022
5	<i>PRESIDENCY UNIVERSITY, BENGALURU</i>	27-05-2022
6	<i>Vigyan Prasar, DST, Gol, New Delhi (SCOPE Project)</i>	04-06-2022
7	<i>Poornaprajna Institute of Science and Research (PPISR), Bengaluru</i>	08.07.2022
8	<i>Don Bosco Institute of Technology, Bengaluru</i>	05.07.2022

10. Celebration of Good Governance Month (December 2022)

December 2022 was celebrated as Good Governance Month as declared by Government of Karnataka in memory of late former Prime Minister Atal Bihari Vajpayee. This is to create awareness among citizens about accountability in

Government. KSTA celebrated Good Governance Month by organizing special talks by eminent administrators and educationists as well as an essay competition for UG & PG students both in English & Kannada.

Contact:

Chief Executive Officer

Karnataka Science and Technology Academy (KSTA)

Prof. U R Rao Vijnana Bhavana, Horticultural Science College Entrance,
GKV Campus, Major Sandeep Unnikrishnan Road, Doddabettahalli,
Vidyaranyapura Post, Yelahanka, Bengaluru – 560 097

Ph./Fax: 080-29721550; 080-29721549

Email: ksta.gok@gmail.com

JAWAHARLAL NEHRU PLANETARIUM
Bangalore Association for Science Education (BASE)
Sri T Chowdaiah Road, High Grounds, Bengaluru – 560 001

Introduction:

The Jawaharlal Nehru Planetarium (JNP), is administered by the Bangalore Association for Science Education (BASE), which is an autonomous body of Government of Karnataka. It is funded by the Department of Science and Technology, Government of Karnataka. The Governing Council of BASE comprises seven distinguished Senior Scientists from prestigious national institutions and Secretaries of Department of Science and Technology, Department of Finance, Commissioner and Mayor of Bruhat Bengaluru Mahanagara Palike. Dr. A S Kiran Kumar, former Chairman of ISRO is the Chairman of the Governing Council.

Science Popularisation and Non-Formal Science Education are the primary objectives of the organisation. BASE/JNP has become a source of education/information to school students, general public and enthusiastic students of science because of diverse activities catering to students of all ages and the public. Over 3 lakh public, which includes thousands of students, visit the Planetarium annually. Hundreds of students participate in educational activities of JNP.

I. *Science Popularization:*

• Sky-theatre Programmes

Preparation of new sky theatre shows: The programmes “Gravity” and “Sun & its family” are being produced in-house and progressed considerably; and the “Gravity” show will be launched soon for public.

Science Watch Capsules: It is planned to produce in house four “Science Watch” capsules on current science topics. These will be shown at the beginning of all regular shows at the sky-theatre. This year the video produced is on “James Web Space Telescopes” As has been the practice, free sky-theatre shows were offered to BBMP Schools in 2022. About 2838 children from 28 BBMP schools enjoyed the shows in the Sky Theatre and were exposed to wonders of science, demonstrated through models in the Science Park. Apart from this, about 4200 visitors including special children, children from financially backward community, participants for the workshops, etc., were offered free shows.



No. of visitors: More than 3.45 lakh (school children/ general public) Duration: April - Jan

- **Telescope Assembly Workshop**

Two-day Telescope Assembly Workshop was organised in Dharwad Regional Science Centre. In this session, participants were mentored to assemble and collimate a 150mm Newtonian telescope. The workshop included theory sessions conducted by experts in astronomy and use of Newtonian telescopes.



No. of participants: 10 -12; Duration: Two days

- **Zero Shadow Day Workshop**

A Zero Shadow Day workshop for school students was organised on 24th April 2022. The students were trained to trace the path of a gnomon's shadow tip; the students determined the true north and computed the earth's circumference from the accumulated data from different stations across the country. Institutions involved in this popular level countrywide activity were: Jawaharlal Nehru Planetarium, Indian Institute of Astrophysics, Bengaluru; Tamil Nadu Science and Technology Center, Chennai; Galileo Science Club, Coimbatore & Several Science centers in Tamil Nadu, Pilikula Regional Science Centre, Mangaluru; District Regional Science Centre, Dharwad; Sub-Regional Science Centres at Karwar, Raichur, Bellary; Aryabhat Foundation, Bhopal, B M Birla Planetarium, Jaipur and Jawahar Planetarium, Allahabad.

Apart from the workshop, the following arrangements were made at the Planetarium for public:

- ❖ A poster exhibition on the “SUN”
- ❖ A solar scope projection of the Sun's image to observe sunspots
- ❖ A H-alpha telescope to show surface features of the Sun
- ❖ Exhibits to demonstrate zero shadow instant: Two gnomons, two parallel plate exhibits and lighting of crackers at the zero shadow moment using the Sun light.
- ❖ An interactive session with scientists of the Indian Institute of Astrophysics



Participants: About 300; Duration: One day (once a Year)

- **Asteroid Day – 30th June**

A special public lecture for general public was held on “Exploration of Asteroids by Robotic Spacecrafts” by Dr. B R Guruprasad. Interactive sessions in Kannada on “Asteroids” by Dr. B S Shylaja & Smt. B R Lakshmi and on “Falling Stones” by Dr. B S Shylaja & Dr. M Y Anand were organised in hybrid mode for the students in collaboration with science centres of Karnataka.

Beneficiaries: About 90 members. Duration: One day (once a Year)

- **Workshop for Special Children:**

A creativity workshop was organised in collaboration with M/s. Dynam Vocational Skill Training Centre, Bengaluru. Four such workshops were held on 3rd & 4th Nov and on 7th and 8th December 2022 for special children and their teachers.



Beneficiaries: About 130 students/teachers; Duration: Two days (Twice a Year)

- **Monthly Programmes**

A popular sky-watch programme entitled “**Know Your Stars**” was held on first Sunday of every month for general public and students.



Beneficiaries: About 270 general public/students & Duration: First Sunday of every month

“**Ask an Astronomer**” was scheduled on first Sunday of every month. Astronomers of the Planetarium interacted with the public to answer their questions and clarify doubts.



Beneficiaries: About 200 students/ general public & Duration: First Sunday of every month

Screening of Science Movies: Science movies which are not easily available for general public was screened in the Planetarium for the benefit of public & students on third Sunday of every month. Wonders of Life - Endless Forms most beautiful; Wonders of Life - Size Matters; How the Universe Works : Black Hole; How the Universe Works : Alien Galaxies etc. were screened this year.

Beneficiaries: About 300 general people & Duration: Third Sunday of every month

Science Club Activities: This is a monthly programme aimed at high school students, who are unable to attend year-long weekend classes. ‘Paper Science’, ‘Sand – not so simple’, ‘Adithya L1 Mission’, ‘Coronal Mass Ejection & Geomagnetic Storm’, ‘Detection of fastest star around a black hole’, ‘JC Bose, The creative investigator’ are some of the topics discussed this year.



No. of visitors: About 350 students/public annually & Duration: Second Sunday of every month

- **Workshop for Public**

A 3-day workshop “Universe in the Classroom” was organised in two batches for public from 23 to 25 Dec 2022 and 29 to 29 Jan 2023. These astronomy sessions included interactive sessions with participants, hands-on activities, astronomy model demonstrations and introduction to identify stars and constellations inside the Sky-theatre and in the real sky.

Beneficiaries: About 35 students/public annually ; Duration: Twice a year

- **Workshop for Girl Children**

One-day workshop on Day Time Astronomy for girls was organised on 21st Jan 2023. The workshop was aimed at activities with gnomon, making Sundial, Sun projection, measuring the angular size of the Sun and other hands on activities.

Beneficiaries: About 135 girls annually ; Duration: twice a year

- **Science-in-Action**

A 3-day science exhibition entitled “Science-in-Action” was held twice at the planetarium. The first exhibition was set up by the Planetarium from 2nd to 4th Sept 2022 and the second was set up by the students of different schools from 18th to 20th Nov 2022.

With the increased demand for such events in various parts of the city, the Planetarium organised one more science exhibition in collaboration with B V Jagadish Science Centre at National College, Jayanagar.



Beneficiaries: About 8000 - 10000 school students including public &

Duration: 3-days (3 times a year)

- **Special Lectures:**

The following Special lectures on different and current topics of science was organized in association with International Centre for Theoretical Sciences (ICTS) for general public and students:

- “Perpectives in Math & Art” by Prof. Supurna Sinha, RRI, on 24.04.2022
- “Coping with Salt and Drought: How Crop Plants Survive” by Prof. M K Mathew, NCBS on 08.05.2022
- “Greening of Bangalore” by Prof. Vijay Tiruvady on 26.06.2022
- “Novel phases of matter near absolute zero temperature” by Prof. Sanjukta Roy on 31.07.2022
- “Simulations: Why, What & How?” by Prof. Parthani Roy on 28.08.2022
- “Finding our place among stars” by Prof. Sarita Vig on 11.09.2022
- “History of Walking Robots” by Prof. Shishir Kolathaya on 30.10.2022
- “Beaming into Matter and Life with Particles and Light” by Prof. Swapan Chattopadhyay on 27.11.2022
- “Chance and Chaos : how to predict the unpredictable” by Prof. Jen Marklof on 11.12.2022
- “Black Holes, Quantum Mechanics and the Reversibility of Time” by Prof. Suvraj Raju on 14th Jan 2023

For popularising science among students, the Faculty Members of the Planetarium organised the following lectures:

- “Extrasolar planets & the search for habitable worlds” by Dr. Anand Narayanan, Professor, Indian Institute of Space Science and technology on 19.10.2022
- “Search of Exoplanet” by Dr. B.S. Shylaja, Former Director, Planetarium on 20.10.2022

- Conversation in Kannada on “Understanding extra solar planets” by Dr. B.S. Shylaja on 20.10.2022
- The Raman Research Institute, Bengaluru in collaboration with Jawaharlal Nehru Planetarium organized a special lecture by Prof. Maura McLaughlin, Eberly Distinguished Professor of Physics and Astronomy, West Virginia University, USA, (Sarojini Damodaran Fellow) on “Pulsars : Timekeepers of the Cosmos” on 29th January 2023.

Beneficiaries: About 3000 students/public annually & Duration: Once in a month

- **Amrut Mahotsava Celebrations**

Under this programme, the following activities were conducted this year:

- Conducted 8 lectures by the staff of Planetarium; a few more lectures are planned to be organized in the coming months
- Night sky observations were conducted in 23 schools all over India in Madikeri, Kadaba, Tumkur, Chennapatna, Mangaluru, Raichur, Hosakate, etc.rural areas. More than 3000 school students, teachers and general public availed this opportunity.
- Ten short videos on Indian astronomers were prepared and uploaded to the JNP's youtube channel
- Preparation of short videos on demonstrating concepts in astronomy through models are in final stages of completion. These experiments are demonstrated by the Faculty of the Planetarium and will be available to public on JNP's Youtube channel soon.
- Two interactive sessions with panel of distinguished scientists with a few bright students were organized; they were highly successful with enthusiastic participation from students/public; hence it is decided to continue this programme every month.
- A state level Science Quiz competition in Kannada was conducted in five stages by dividing the students into four divisions of Karnataka. The toppers of four divisions were called for final round of Science Quiz. Mr. Chinmay G K from Mysuru division won the first prize in this competition. The Science Quiz in Kannada has reached out all corners of the State and created awareness and interest in the minds of students and teachers. This activity in Kannada will be continued next year also.



Beneficiaries: High Students. 100 BBMP students from Hebbal school were invited to witness the final round of quiz held in JNP, Bengaluru.

- **Dasara Lectures**

Beginning 2022, the Planetarium launched a new series of special lectures to reach out students and public. The Planetarium organised the following four lectures under this programme. The theme of this year's inaugural Dasara Lectures was 'Structures at Different Scales' – a look into structures from atomic or molecular sizes to the expanse of the universe.

September 28, 2022 – "Our Place in the Cosmos" by Prof Tarun Souradeep, Raman Research Institute

September 29, 2022 – "Aesthetics in Fluid Mechanics" by Prof Rama Govindarajan, International Centre for Theoretical Sciences

September 30, 2022 - "The Art and Science of Nest Building" by Prof Tejas G Murthy, Indian Institute of Science

October 1, 2022 – "Chemistry is Fun" by Prof Uday Maitra, Indian Institute of Science



Beneficiaries: General public and students. About 200 people; Duration: during Dasara 2022

- **National Mathematics Day**

A workshop for High School Teachers as part of celebration of National Mathematics Day was scheduled on 22nd Dec 2022. Mr B S Krishnamurthy (a pioneer of the programme Dance with Maths) was organized for teachers involving several interesting activities in mathematics and the art of learning Mathematics.



Beneficiaries: 20 Teachers. Duration: One day

- **Workshop for Science Communicators at Science Centres**

The following collaborative programmes were held this year with the Science Centres of Karnataka:

- A workshop for students on account of "Moon Day" on 20th July 2022

- Conversations in Kannada on “Understanding Extra Solar Planets” on 19th and 20th Oct 2022
- Solar goggles were distributed to science centres to witness the Partial Solar Eclipse. Shared the information and discussed about the event with the centres.
- Conversations in Kannada on account of ‘World Space Week’
- Valuable and useful collections of JNP Library on science topics were sent to Sub-Regional Science Centre, Karwar for their use.

Beneficiaries: Science Communicators; Duration: one-day programmes

- **Preparation of Science Kits**

It was planned to bring out souvenirs, books, science kits, etc., and distribute to students and visiting public through the book stall situated on the campus. A tabletop Solar System model has been designed and produced for young students under the heading ‘Do it Yourself’. Preparation of Science Exploration kit is under process.

- **Space Week**

The following programmes were organised in association with KSTePS, Pilikula Regional Science Centre, Mangaluru; Regional Science Centre, Dharwad; Sub-regional Science Centres, Raichur; Karwar and Bagalkot to celebrate the ‘World Space Week’:

- **October 7, 2022 : ‘Samvaada with Space Scientists’** – interaction between college students and Distinguished Space Scientists – Dr A S Kiran Kumar, Former Chairperson, ISRO; Dr S.Seetha, former senior Scientists, ISRO (Retired) and Dr P J Bhat, Scientist, ISRO
- **October 8, 2022** : A talk entitled ‘**Astrobiology**’ by Dr Arun Kenath, Christ University, Bengaluru
- **October 9, 2022**: A talk entitled ‘Science From Space Telescopes’ by Dr M Y Anand, J N Planetarium, Bengaluru



A three-day exhibition of Space Models and ‘Walk in Quiz’ were organized in association with the Indian Space Research Organisation from 7th to 9th October 2023 at the Planetarium. 250 school students attended the expo and the event. Seventy-five students participated in the quiz programme, the top 25 students were selected to visit one of the

centres of ISRO. Accordingly, the Planetarium coordinated with students & ISRO and arranged the visit to ISTRAC, Peenya on 28th December 2022 for the winners. Various Science Centres in Karnataka participated in this program online.

Beneficiaries: 250 School Children; Duration : 4-days

- **Preparation of publicity materials to popularise Science**

The following activities are taken to popularise science topics among students and general public are some of them:

- ✓ Publishing quarterly bulletin entitled "BASE Line"
- ✓ Publishing annual calendar, which involves phases of Moon, constellations visible at dusk almost at zenith, a brief introduction of planetarium objectives and Holidays of the planetarium.
- ✓ Preparation of astronomical models.

II. Science Education Activities and Research

- **Year long Weekend Sessions (Science Over Weekends) – for high school students**

The Science over Weekend (SoW) programme for high school students was held during July 10 till Feb 2023. The topic of discussion this year was "Ohm's Law and Electric Circuits"

Beneficiaries: Around 25 students & Duration: July 2022 – February 2023

- **Summer Camps for School Students (in April and May)**

Several activity-based summer programmes covering a wide age group of students were organised during April and May 2022. Lecture-demonstrations, discussion-based interactive sessions, working on the computers, etc. were included in the following programmes:

1. Tiny-Tots

A five day activity-based science programme for students of primary was held in 4 batches from April 5 to 9 and April 19 to 23, 2022. Simple science demonstrations and model making activities were taught in this programme.

2. Fun with Science

A five-day programme for students of higher primary was held from April 12-16, 2022. Students were taught the basics of science through demonstrations and hands-on activities.

3. One Day Workshops for students

Two one-day workshops were conducted for students of classes VI – VIII on the topics 'Light' and 'Recreational Mathematics' on 10th & 17th April 2022. These were activity-based programmes which introduced students to concepts in mathematics and science.

4. Astro-computing

A five-day computer-based programme was conducted for the students of high school in two batches from April 5 to 9 and April 19 to 23, 2022. The methods adopted by astronomers to locate positions of asteroids, understand rotation of the Sun and other celestial motions using CLEA software were demonstrated in the programme.

5. Day time Astronomy

A workshop for high school students & above was organised on 12th April 2022. Activities with gnomon, Sun projection, measuring the angular size of the Sun and other hands on activities were discussed in the programme.

6. Astronomy through Apps

A 3-day online workshop was organised from 13th to 15th April 2022 for high school students to introduce selected Astronomy apps with basic science concepts. To observe Sun-Earth connections, planets, stars and galaxies with apps on mobile were explained to the participants.

7. Universe in the Class Room:

A three-day programme for 13 years and above was held from May 6th to 8th, 2022. This included introduction to astronomy to students with hands on activities, models, demonstrations and movies.

8. Fundamentals of astronomy

A short duration course was conducted in Kannada & English on hybrid mode for 15 years and above age group persons on weekends during April & May 2022. The programme was aimed at explaining the basics of astronomy and astrophysics, and included interactive sessions, demonstration of models to clarify the concepts.

9. Summer Course for high school students

A ten-day course was held from April 19 to 30, 2022 for students. It was an intensive programme conducted to introduce various principles of classification in various disciplines in science through theory classes, laboratory and computer sessions, demonstrations and film shows.

10. Principles of Indian astronomy

A three-day programme was conducted on hybrid mode for the age of 15 years and above persons. This programme introduced the techniques used in Sanskrit texts like Surya Siddhantha. Discussions were made to understand basics of night sky, prediction of eclipses, drawing parallels from modern spherical trigonometric methods.

11. From Web of Life to Universe

A ten-day programme for college students was held from May 24th to June 3rd, 2022. This was aimed at motivating PUC and B.Sc., students towards research both in Physical and Life Sciences. Lectures for these courses were given by scientists from research institutes. The lectures introduced the students to fundamental ideas and frontier areas of research in various fields. Special lectures by medical practitioners about relevance of physics and biology to medical science also were scheduled.

Beneficiaries: 600 students Duration: April and May (2 months summer vacation)

- **Workshop for Teachers**

At the beginning of the academic year, a meeting was held to familiarise with the annual science popularisation and educational activities of the Planetarium.

Workshops for high school teachers on following topics were held this year:

1. 'Light' on 07.07.2022
2. 'Trigonometry' on 14.07.2022
3. 'Force and Pressure' on 15.09.2022
4. 'Metals & Non-Metals' on 04.08.2022
5. 'Mensuration' on 22.09.2022



Two special lectures were organised as part of the Teachers' Day Celebrations on 17th September 2022. Dr Sameerasimha, noted Educationist gave a talk on "Instructional Design for Developing Stages of Learning" & Dr Balakrishna Adiga, noted educationist on "Approaches to Teaching Biology".



Beneficiaries: 150 teachers Duration: June to December – six months

- **Research programme for Degree students**

REAP is a three-year programme in Physics and in Biology which are offered concurrently with regular under-graduate college education complementing their formal curriculum. The primary objective of this programme is to attract students to pure sciences and prepare them for a research career in science. It is actively supported by IISc, RRI, ICTS, TIFR and IIA, Bengaluru. Over 150 students of this programme have obtained their PhDs since the commencement of this programme and several students are pursuing their doctoral studies. This year's programme commenced from September 7, 2022 with 100s of students registering for admission to REAP (Physics).

Beneficiaries: 100 (30) students & Duration: June 22 to March 23– nine months

- **Research Education Advancement Programme- Biology (Bio-REAP)**

A Year-long programme for students who are studying in BSc with a strong aptitude for a research career in Life Sciences, commenced from 13th August 2022. The teaching sessions were held over weekends.

Beneficiaries: About 90 students & Duration: June 22 to March 23– nine months

- **Workshops for School Students**

- One-day workshop “Moon through Activities” for students was organised to celebrate the ‘International Moon Day’ on 20th July 2022.
- On the occasion of Children’s Day Celebrations, a half-a-day Workshop for 3rd to 5th standard students was held in two batches on 13th November 2022 with hands-on demonstration of science experiments.

Beneficiaries: 150 students Duration: one day

III. Science Park: Maintenance

Science Park is equipped with more than 60 dynamic models that demonstrate underlying scientific principles. Detailed explanatory write-ups have been displayed beside each science model and also can be downloaded by scanning a QR Code supported FlippAir software. These explanatory materials are also available on the Planetarium’s webpage. Regular periodic maintenance are being undertaken in view of their constant exposure to nature in the open Sky and use by the visitors in large numbers. This year “Noise Resonator” and “Camera” are added to the list

Beneficiaries: General public and students visiting the Planetarium – 3.50 & Duration: open throughout the year

New and additional programmes conducted during this year

1. Celebration of “International Moon Day”

Special programmes were organised to celebrate the ‘International Moon Day’ in association with Capacity Building Programme Office, ISRO. Shri A S Kiran Kumar, Former Chairman, ISRO and Chairman, BASE has inaugurated the programme.

- A workshop for students “Moon through Activities”
- A talk “Chandrana Angaladalli” by Shri H R Madhusudan, JNP
- A talk “A Journey with the Moon” by Dr. Tirtha Pratim Das, Director, Science Programme Office, ISRO

Beneficiaries: 100 General public and students & Duration: one-day

2. Human Space Flight Expo - 2022

Human Space Flight Centre, Indian Space Research Organisation and the JNP jointly organised a mega exhibition “Human Space Flight Expo” as part of “Azadi ka Amrit Mahotsav” from 22nd to 24th July 2022 at the Planetarium. This was a space-themed celebration to commemorate 75 years of India’s Independence. A sky-theatre show “The Indian Space Odyssey – surrounding rocket of Gaganyaan” was produced by ISRO and screened in the theatre during the expo. The expo conducted a lot of activities viz., Spaced Out, Can You Be An Astronaut, Are You (W)right?, Poster Presentation, Build Your Own Space Habitat, What’s In An Astronaut’s Bag?, Live Lectures & Dome Video, Where Science Meets Fun.



Beneficiaries: 23000 General public and students Duration: 3 -days

3. Viewing of Partial Lunar Eclipse

On November 8th, 2022 a partial lunar eclipse occurred in the evening sky. Though it was not be seen as a partial eclipse in India and large part of the world, the following arrangements were made for public to disseminate the scientific information:

- Lecture on Lunar Eclipse
- Demonstration of Lunar eclipse model
- Live streaming of lunar eclipse on taralaya YouTube channel
- Question and Answer session for YouTube viewers after 5:00 pm
- Display of lunar eclipse on Video wall at JNP



4. Global We Project

Science Gallery of Bengaluru have installed a portal “Global We Project” in our campus on 9th November 2022.

5. A Winter Night at Planetarium

The Planetarium organise night sky sessions from Nov to February every year. To begin with, the first batch was conducted on 17th November 2022 from 10 pm to 4:30 am. The programme included watching Leonid Meteor Shower, introduction to night sky and naked eye observations, demonstration lecture in sky-theatre. With overwhelming response from the public, another batch was conducted to observe the Geminids Meteor Shower on 13th December 2022.



6. Science Exhibitions

The Planetarium has participated in the following events to exhibit the science models:

- “Science Mela” a part of International Cultural Jamboree – 2022 at Mudubidire from 21st to 27th Dec 2022
- “Shri Kshethra Sutturu Jatra Mahotsava” at Sutturu, Mysuru, from 18th to 23rd Jan 2023
- “Science Expo – 2023” organised by the Social Welfare Department, Government of Karnataka, at Palace Ground, Bengaluru on 27th & 28th Jan 2023.

Contact:

Administrative Officer
 Jawaharlal Nehru Planetarium
 Sri T. Chowdaiah Road, High Grounds, Bengaluru – 560 001
 Telephone no.: 080-22379725
 Email: taralaya89@gmail.com/info@taralaya.org

PILIKULA DEVELOPMENT AUTHORITY
Mudushedde post, Mangalore-575028, D.K. (District)

Introduction:

The GoK as per notification SAMVYASHAE 08 SHANANA 2018, dt: 09-03-2018 has notified Pilikula Development Authority (PDA) by dissolving Dr.Shivarama Karantha Pilikula Nisarga Dhama Society and Pilikula Regional Science Centre Society to plan the overall development of Pilikula and to take it to a high of other such projects elsewhere in the country. Came in to existence from 1st April 2021. The rules for Pilikula Development Authority Act has also been formed as per the government order no. DST 157 STS 2017 (P) dt. 27.12.2019. Department of Science & Technology, Govt. of Karnataka is the nodal agency for supervision and control of the Authority. Total land – 356 acres.

Objectives:

- 1) The main objectives of the PDA are conservation of Biodiversity of Western Ghats, Heritage & Culture and also creating awareness in science & technology among public.
- 2) To create an awareness among people regarding the developments in the field of science and technology.
- 3) To conduct creative activities for students and teachers and towards this end, create necessary facilities.
- 4) To develop PRSC as a resource centre and to establish linkages with national and international institutions for developing a network of scientists and communicators.
- 5) To create an atmosphere of scientific temper and to work for scientific literacy.

1. Pilikula Biological Park:

This is one of the main attractions of Pilikula, set up in an area of 180 acres. It is recognized by the central Zoo Authority as a major zoo. The visitors are given the experience of wild life because of the enclosures, developed to closely resemble the natural habitats of flora and fauna. The park has more than 1200 animals of 120 species including mammals, reptiles, birds and fish species.

2. Regional Science Centre:

Pilikula Regional Science Centre (PRSC) at Pilikula, Mangaluru was set up jointly by the Department of Science & Technology (DST), Govt. of Karnataka (GoK) and National Council of Science Museums (NCSM), Kolkata, Ministry of Culture, Govt. of India (GoI). It is administered by the Pilikula Regional Science Centre Society (PRSCS) for which Deputy Commissioner of the District is the Chairman.

The Science Centre is set up in an area of about 10 acres, having a built-up area of approx. 4000 sq.m. It houses 3 exhibition galleries, a temporary exhibition hall, an

inflatable dome planetarium, science demonstration area, activity area, an air-conditioned auditorium, a 3D theatre facility, library, conference hall, computer room, a small workshop for maintenance of exhibits and other public facilities. There is also a Science Park in the lush green garden area outside the Science Centre building, which includes a Dinosaur Park. The latest addition is a Planetarium of nano seam dome with a diameter of 18m, tilted at 15° having a hybrid projection system with an active 3D facility. This is the first of its kind in the Country.

3. Heritage Village:

The Dakshina Kannada is blessed with natural resources and a rich culture and tradition unique to the region. An area of 30 acres is identified as heritage zone in Pilikula to recreate and showcase the distinctive culture, tradition, craftsmanship and cuisine of the region.

4. Artisans Village:

The District is home to a rich tradition of artisans and craftsmen who have passed their skills from generation to generation. However, due to pressures of urbanization and changing lifestyles, several arts and crafts have lost their significance. To protect these crafts from extinction, Pilikula has developed a model artisan village with production, training and marketing infrastructure for various crafts and occupations.

5. Pilikula Lake & Gardens:

The natural Pilikula Lake has an area of 6 acres and a depth of 10m. This Lake, which had degenerated and was on the verge of becoming extinct, was de-silted and restored to its original glory. One of the key benefits of this restoration has been the recharging of the ground water. The lake garden, with boating facilities is popular among the tourists.

6. Aquarium of Western Ghats fishes:

An aquarium of Western Ghats fishes has been established under a sponsored program of Fisheries Dept. There are 27 species of Western Ghats fishes, mostly threatened ones, have been displayed in 30 units. Breeding of some threatened fishes have also been taken up with an intention of releasing them into their wild habituates.

7. Arboretum / Botanical Garden:

The arboretum in Pilikula is conceived with the objective of ex-situ conservation and flora of the Western Ghats. It spreads over an area of 80 acres and has more than 60,000 plants belonging to 236 species. A medicinal garden, Tree Park, RET Garden and Herbarium & Botanical Garden are the subsection of the arboretum.

8. Rural Haat and Urban Haat :

Urban and rural haat is established at Pilikula for showcase and promote the handicrafts of different parts of India

ACTIVITIES FOR THE YEAR 2022-23

1. Heritage Village:

Sl. No.	Program	Date	Place	Donated by	Expenses	Target Group
1	Ati Koota	13.08.2022	Heritage Village, PDA	Kannada & Cultural Dept., Bank of Barooda, Union bank of India	2,45,772/-	Public
2	Kangeelu Dance	26.11.2022	Heritage Village, PDA	Kannada & Cultural Dept.	21,534/-	Student, Teachers and Public



2. Regional Science Centre:

1. Miniature Nuclear Gallery

NPCIL, Mumbai donated a miniature nuclear gallery, containing models of atom and nuclear reactor with posters of applications of nuclear energy. This is now used to explain the principle of production of nuclear energy and its uses.



2. Zero shadow day

The phenomenon of zero shadow on 24.04.2022 was demonstrated with models to interested students and visitors. The program was conducted in association with other centres.

3. World Environment Day Celebrations

About 150 Students and teachers of PA College of Engineering and Indira Nursing College joined PRSC for celebrating the World Environment Day on 06.06.2022. A

lecture on 'Global Warming and Climate change' followed by tree planting were the highlights.



4. International Asteroid day

The day was celebrated on 30.06.2022 with a lecture on the theme at Govt. College of Teacher Education, Mangalore with participation of about 200 student-teachers.

5. International Moon Day

In collaboration with ISRO and Jawaharlal Nehru Planetarium, Bengaluru the day was celebrated on 20.07.2022 by demonstrating various phenomena related to moon and providing necessary details for the same. A film 'The Moon' was shown to the participants in the planetarium.



6. NPCIL – DAE Iconic Week Celebrations - 2022

Under 'Azadi ka Amrit Mahotsav', this event was planned by Nuclear Power Corporation India Ltd., Mumbai, Dept. of Atomic Energy (NPCIL DAE). As per the objectives of the program, PRSC conducted sessions on awareness and achievements of the Country in the field of nuclear energy, on August 24th and 25th, 2022. Competitions were conducted for high school students on 24th and lectures were organized on 25th for Engineering and First Grade College students, followed by tree plantation activity in the Campus.



7. Clean Coast, Safe Sea – Campaign

As a part of 'Azadi ka Amruth Mahotsav, Ministry of Earth Sciences, New Delhi planned a program of 'Clean Coast, Safe Sea'. Vigyan Prasar (VP), New Delhi was requested to take up this outreach activity for students and NGO's. In Karnataka, the program was under the leadership of Karnataka Science and Technology Academy (KSTA), Bengaluru and PRSC was asked to plan this at Mangalore. To involve as many students and public in this activity the program was planned in ten Centres along the coast, in the districts of Dakshina Kannada (D.K.) and Udupi. An awareness about the oceans and action plan to clean the beaches were the highlights. About 2500 students, many NGO's, Coastguard and general public participated in the activity.



8. September Equinox

On 23.09.2022, about 100 students and teachers participated in the demonstrations and experiments conducted at the centre and using the data collected, details were discussed pertaining to the phenomena.

9. Night Sky Observation (Jupiter Opposition)

Jupiter was nearest to the earth on 29.09.2022, PRSC made arrangements for observation of the planet through telescopes for the interested visitors.



10. World Space Week Celebrations – 2022

This was celebrated by organizing Lectures, Quiz on space and demonstration of telescopes on October 7 -8, 2022. Scientists from ISRO collaborated in conducting the programs for B.Ed. and First Grade College students. About 400 students participated.

11. Observation of Solar Eclipse

Through telescopes, solar goggles, pin hole camera and computer system the solar eclipse on 25.10.2022 was observed by about 800 people at Panambur Beach. The

phenomenon was explained to the interested viewers and the effort was appreciated by press and public.



12. Special Night Sky Observation shows

On the occasion of planet Mars being nearest to the Earth and in opposition to the Sun, a special night sky show was organized on 08.12.2022. This was to educate the public regarding the phenomenon which takes place once in 26 months. The red planet would be brighter, bigger in size and would be clearly visible, rising in the east when the sun sets in the west (hence opposition). During this show, Jupiter, Saturn, Moon and prominent constellations of stars were also shown, through telescopes.



13. Workshop for Atal Tinkering Lab (ATL) Schools

A one day workshop on 18.11.2022 was organised for ATL Schools of the district on the theme 'Rockets and Satellites', which is a topic in the ATL module. The program was planned in collaboration with ISRO. The resource person, discussed history of rockets, introduced the concept of orbits of satellites, manoeuvring and gave details of wide variety of applications of satellite. Students were given information about satellite applications for the prosperity of the country. Demonstration of telescopes and a film show on the Moon were also part of the program.



14. Teacher Training

For the effective using of Akshar Kits for teaching of mathematics, PRSC took the initiative to organize a meeting with DIET Officials and Akshar Foundation Coordinator. Modalities were worked out for the training and as per the discussion, a training program was conducted at Bantwal BRC Office on 02.12.2022.

15. Special lecture on basic Astronomy

A special lecture on basic astronomy was delivered on 13.12.2022 to students and teachers of BTVP high school, Bidar by the Curator of PRSC. About 300 students participated in the program and clarified their doubts.



16. International Scouts and Guides Jambooree

As a part of Jambooree program during Dec 21-27, 2022 at Moodabidre, a science exhibition was conducted and PRSC helped in planning the same. Also the centre facilitated the visits of Jambooree students to galleries of the PRSC and the park. About 5000 students and guide teachers were involved in the program.

17. Science demonstration and sky observation program

For the student-teachers and staff of Govt. College of Teacher of Education, a science demonstration and sky observation program was conducted on 05.01.2023. About 150 students participated in the program



3. Pilikula Biological Park

Programmes conducted for the year 2022-23

S. No.	Programme	Date	Place	No. of Participants	Participants
1	Earth Day	22.04.2022	Pilikula Biological Park	80	School children, College students and general public
2	World Bee Day	20.05.2022	Pilikula Biological Park	250	General public of all age group
3	International Day of Biological Diversity	22.05.2022	Pilikula Biological Park	200	General public of all age group
4	Bird House Making	May 2022	Pilikula Biological Park	500	General public of all age group
5	World Environment Day	05.06.2022	Pilikula Biological Park	150	General public of all age group
6	International Tiger Day	29.07.2022	Pilikula Biological Park	150	School children, College students and general public

Contact:

Commissioner

Pilikula Development Authority (PDA)
Mudushedde post. Mangalore-575028

Email:pilikula96@gmail.com

Phone No:9880799284

DHARWAD REGIONAL SCIENCE CENTRE

Karnataka University campus, Dharwad

Introduction:

The state government announced in the year 2003 budget to set up the Dharwad Regional Science Center on about 11 acres of land in the Karnataka University campus. The Dharwad Regional Science Center has been built by the National Council of Science Museums (NCSM), under the Ministry of Culture, Government of India, Kolkata with the collaboration of Department of Science and Technology, Government of Karnataka with equal grants.

The center was inaugurated on 27.02.2012 and the Dharwad Regional Science Center was established on an area of 4000 sq.m. Dharwad Regional Science Center is located in the campus of the renowned Karnataka University. Around 90000 students and public visit the center every year and this science center attracts young children, youth and adults through science activities.

1. Zero Shadow Day

On 25.04.2022, the first 'Zero Shadow Day' demonstration of the year was held at Dharwad Regional Science Centre. At 12.19 pm, a shadow was not seen on the pillar installed at the Dharwad Regional Science Centre.



2. Scientific Spark-2022

Dharwad Regional Science Center conducted 10-day hobby classes on General Science (Physics, Chemistry, Biology, Mathematics, Astronomy) for high school students during April and May 2022 at Dharwad Regional Science Center.



3. 102nd Birth Anniversary of Dr. H. Narasimhaiah

Dharwad Regional Science Center and Karnataka Science and Technology Promotion Society Bangalore organized a special lecture and science exhibition program on 06.06.2022 to mark the 102nd birth anniversary of Dr. H. Narasimhaiah. Mrs. Vishalakshi S.J, Educational Assistant of the Center gave a lecture on Dr. H. Narasimhaiah to develop scientific attitude among the students and said that his path of struggle should be an inspiration to all students. Shri Chandrakanth F Chandur showed a science demonstration to the students and gave information to eradicate superstitions.



4. Environment Day 2022

Karnataka Science and Technology Promotion Society, Government of Karnataka, Bangalore in collaboration with Dharwad Regional Science Center organized a painting competition for high school children on the theme of 'Human Harmony and Sustainable Life with Nature' on the occasion of Environment Day and Dr. K. Kotresha, Professor Department of Botany, Karnataka Science University, delivered special lecture on 05.06.2022 on this occasion.



5. "International Lunar Day"

For the first time on July 20, 2022, "International Moon Day" is being celebrated worldwide. As part of this, the Dharwad Science Centre, in association with Bangalore's Jawaharlal Nehru Planetarium and the Indian Space Research Centre, organized an event titled "Moon in Action" for high school students from 11 am. The program was conducted online by former chairman of ISRO, Dr. A.S. Kirankumar inaugurated and

explained to the students about the benefits of space research to mankind and told students to pay more attention to the study of space and explained about celebrating the International Moon Day.



6. Lab-in-a-kit distribution and training

Lab-in-a-kit distribution and training program was organized by Dharwad Regional Science Centre for 46 government high schools of Bidar district on 27.06.2022.



7. 'World Ozone Day' 2022

Karnataka Science and Technology Promotion Society, Government of Karnataka, Bangalore in collaboration with Dharwad Regional Science Center organized a painting competition and lecture program for high school children in view of 'World Ozone Day' on the theme 'Climate Change Challenges and Protection of Earth for Future Generation' on 16.09.2022.



8. 'Tangram Maths Activity'

Dharwad Regional Science Centre, Karnataka rajya ganita Parishad, Dharwad and Avva Seva Trust, Hubli organized a 'Tangram Maths Activity' workshop and competition for high school students on 26.07.2022 at Dharwad Regional Science Centre.



9. Telescope making workshop

Dharwad Regional Science Centre, in association with Prof MI Savadatti Foundation, Dharwad (R) and Jawaharlal Nehru Planetarium, Bangalore conducted telescope making workshop for rural students at Science Center on 19.09.2022.



10. One Day Workshop for Mathematics Teachers, Lecture Program on “Healthy Heart through Yoga” on the occasion of World Heart and Yoga Day

Karnataka Science and Technology Department, Karnataka Science and Technology Promotion Society, Bangalore, In association with Dharwad Regional Science Centre, Karnataka Rajya Ganit Parishath (R), Dharwad School Education and Literacy Department, Public Education Department and Varnaz Technologies Tare Zameen Par organised One Day Workshop for Mathematics Teachers, Lecture Program on “Healthy Heart through Yoga” on the occasion of World Heart and Yoga Day and Inauguration of Mobile Planetarium of Tare Zameen Par Institute by Honorable Shri Basavaraja Horatti on 29.09.2022 Dharwad Regional Science It was held at the center.



11. International Space Week

Dharwad Regional Science Center in collaboration with Himalayan Space Center, Dharwad celebrated the first ever "International Space Week" at the Center on October 9, 2022. As part of this, the center conducted a one-day workshop for high school students and general public.



12. Science exhibition for rural high school students

The main mission of Karnataka Science and Technology Promotion Society, Bangalore, and Dharwad Regional Science Center is to take science to the people. In this regard, these institutes conducted various scientific programs across the state. Science exhibition was organized in Ajjahalli village of Maddur taluk, Mandya district through main aim of this competition was to promote interest in science and technology among the young generation, and develop scientific and technical creativity among the students and introduce their talent and create a sense of pride



13. A two-day science and mathematics model making workshop for High School and Primary School Teachers

Karnataka Science and Technology Department, Karnataka Science and Technology Promotion Society, Bangalore in association with Dharwad Regional Science Center on the eve of "National Mathematics Day" organised a two day on workshop on Model making on 22.12.2022 and 23.12.2022 for Dharwad District Mathematics and science teachers. Also, Swami Vivekananda Youth Movement In collaboration with Dharwad

Regional Science Center, organized a model making training program for Mathematics and science primary teachers of Dharwad Taluk on 17.11.2022 and 18.11.2022.



14. Solar eclipse

The partial solar eclipse observed on 25.10.2022 near the sun set point near Om Ashram of Karnataka University premises.



15. Lunar eclipse

The partial lunar eclipse observation was held on 08.11.2022 at Rani Chennamma Stadium of Karnataka University premises.



16. Lab in a Kit Training Workshop for Govt. Girls High School Teachers

Karnataka Science and Technology Promotion Society, Bangalore has approved the distribution of lab-in-a-kits manufactured by Dharwad Regional Science Center to 169 government girls's high schools in the state, as per the budget announcement for the year 2022-23, under the concept of "Nodi Kali madi Tili". Under the said project, "Lab

in a Kit" training workshop for the teachers of the beneficiary schools of Bangalore, Mysore, Kalaburgi and Belgaum divisions was organised by Dharwad Regional Science Centre at various places at the premises.



Contact:

Director

Dharwad Regional Science Centre
Karnataka University Campus, Dharwad-580003
Phone : 0836-2215482
Email: drscs.kud@gmail.com

BALLARI SUB-REGIONAL SCIENCE CENTRE

Nalla cherahu, Near District Stadium, Bellari-583102

Introduction:

The Ballari Sub-Regional Science Centre popularizes science through its various galleries and outdoor science demonstrations, as well as popularizing science by conducting various educational programs throughout the year within and outside the Science Centre and happy to inform that it is playing an important role in developing scientific attitude among students.

Following are the details of the program, activities and workshops organized in the year 2022-23

1. Zero shadow observation activity and lecture program

Zero Shadow day was observed on 30.04.2022. A lecture on zero shadow and a practical activity on finding the circumference of the earth was conducted and on Date: 01.05.2022 the public was allowed to observe the zero shadow and the students. Total Beneficiaries are 105.



2. International Astronomy Day

International Astronomy Day was conducted on 07/05/2022 in Kotturuswami B,ED, Nagar on the occasion of International Astronomy Day for trainees, amateur astronomer Shri.H.S.T. A special lecture will be organized by Swami, Chitradurga. A total of 100 students were benefited by this program.



3. World Environment Day

World Environment Day was celebrated at Bellary Sub-Regional Science Center on 04.06.2022. And as a part of this, about 35 saplings were planted and saplings were watered by Curator of Science Center Shri G.V. Shivaraj and Dr. Bheeman Gowda N. Patil, Assistant Professor, Department of Botany, Smt. Alam Sumangalamma Women's College, Bellary, teachers and students present inaugurated the program and Dr. Bheeman Gowda N. Patil gave a special lecture to the students on environmental protection. Total number of Beneficiaries is 340.



4. Dr. H Narasimhaiah's Birth Anniversary

The greatest educationist, thinker, freedom fighter and genuine Gandhian Dr.H. Narasimhaiah's birth centenary was celebrated at Government High School, Sridharagadde with class 9 and 10 students on 06.06.2022. A total of 162 students participated in the event.



5. International Yoga Day

International Yoga Day was organized on 21.06.2022 at Government Primary and High School, Siriwara Grama. For this program, various yoga asanas were performed for the students by yoga gurus. Total beneficiaries were 611 students.



6. Vigyanna Kammatta- On Chemical Reactions and Equations

One day workshop was organised for five different government high school 10th class students of Bellary Taluk at Bellary Sub Regional Science Center by Mr. Educational Assistant of Science Center on 16.07.2022. A total 45 students and teachers participated in the program.



7. International Moon Day

On the occasion of International Lunar Day on 20.07.2022 a lecture was organized by Jawahar Lal Nehru Planetarium, Bangalore on hybrid model. The lecture was telecasted at Bellary Sub-Regional Science Center and also organized special lecture for the students of Government Ideal School in the city. 32 students were benefited by this program.



8. Dr. Vikram Sarabhai Birthday Celebration

Dr. Vikram Sarabhai's birth anniversary was observed on 12.08.2022 by organising an essay competition for the students of Shanavaspur village of Siruguppa taluk of Bellary district and A lecture on the life achievements of Vikram Sarabhai was held and prizes were distributed to the winners of the essay competition. Total 78 students got benefited by this program.



9. High school students Sir C.V.Raman District Level Science Quiz Competition-2022

On 20.08.2022, Karnataka State Science Council, Department of Science and Technology-Government of Karnataka, Department of Public Education, Bellary, Karnataka Science and Technology Promotion Society, Bangalore in collaboration with Bellary Sub-Regional Science Centre, Bellary Sir. CV Raman district level science quiz competition Year 2022 was organized. Total Beneficiaries: 30 Students.



10. NPCIL- DAE Iconic week celebration under Azadi ka Amrit Mahotsava

In connection with the 75th year of Independence Amrita Mahotsava Date: 23.08.2022, an essay and quiz competition and a special lecture program on Nuclear Power Plant was organized for the students of Government and Aided High Schools at Bellary Sub-Regional Science Center by NPCL Kaiga Nuclear Power Plant Centre. The program was graced by NPCIL officers Srinivasa N Panchmukhi, Ravindra P Bilagi, Gururaj Munnalli, Science Center Curator G.V. Shivaraj inaugurated the program by planting a sapling in the premises of the Science Centre. Around 90 students from various government and aided schools in the city participated in the quiz and essay competition and cash prizes were awarded to the winners of the competition and certificates of appreciation were distributed to all the participating students.



11. NPCIL- Dae Iconic week celebration about Kaiga power plant video presentation

As part of 75th Year of Independence Amrita Mahotsava Date: 24.08.2022 to 28/08/2022 NPCIL Kaiga Nuclear Power Plant Bellary Sub-Regional Science Centre, G.H.S, Radiopark, G.H.S. A 30-minute video on Kaiga Nuclear Power Plant was screened

through a projector for the students of M.A.K, Azad Kote, G.H.S, Moka and G.H.S, Vadatti Government High Schools.



12. Sir M. Visvesvaraya Birthday Celebration-2022

Sir M. Visvesvaraya Birth anniversary was observed on 15.09.2022. The students of 9th and 10th class of Government High School, Bandihatti, Bellary celebrated their birth day through a ppt presentation on the contributions and life achievements of Bharatratna Sir M. Visvesvaraya in the construction of modern Karnataka. Total 153 students were participated in the event.



13. World Ozone Day-2022

In connection with the World Ozone Day on 16.09.2022, a painting competition on Ozone Conservation and a lecture on Ozone Conservation through PPT was organized for the students of class 9 and 10 of Government High School, Bandihatti School. Prizes and certificates were given to the students who won the competition. Total Beneficiaries: 158 Students



14. A conversation with space scientists

An online “Interaction with Space Scientists” and “Lecture Program on Astrobiology organized by Jawahar Lal Nehru Planetarium on 08.10.2022 was screened at Kotturuswami Teachers College of Education, City through Ballari Sub Regional Science Center. Nearly 150 students/ teachers participated.



15. International Space Week

Karnataka Science and Technology Promotion Society, Bangalore, Indian Space Organization (ISRO), Bangalore, Jawahar Lal Nehru Planetarium, Bangalore, Bellary Sub Regional Science Center in collaboration with 03 Government High Schools (Koluru, Kuditini and Janekunte) on the occasion of International Space Week. Date: Quiz competition was organized for students on 21/10/2022, 27/10/2022 and 29/10/2022. This quiz competition was conducted in 2 phases (15 Marks Multiple Choice Question Test and Quiz Rounds). Award certificates and prizes were distributed to the students who won their competitions and were briefed by the science center on space. Nearly 391 students participated in the event.



16. Solar eclipse viewing activity

Arrangements were made for solar eclipse viewing with telescope filter glasses in the Bellary Sub-Regional Science Center premises till 05.54 pm ON 25.10.2022. Eclipse superstition was dispelled by eating biscuits during the eclipse. On this occasion, all the staff members of the science center created awareness among the masses about the solar eclipse with communication boards. Curator of the Science Center G.V. said that it is a natural process in nature and people should not be silent during the eclipse. Nearly 200 students and General Public participated.



17. Sir C V Raman & Madam Curie Birth Day

Sir C.V. Raman and Madam Curie birth day program was observed by organizing a special lecture for the students of Government Pre-Graduate College Nallacheru Kaul Bazar, Bellary College on 21.11.2022. Mr. Akki Mallikarjuna, Physics Lecturer, Government Graduate College, Bellary, was present as a special lecturer for this program. Total 47 students participated in the event.



18. Good Governance Month-2022 & Worlds Aids Day

Good Governance Month-2022 and World AIDS Day program was organized for the students of Government High School, Kolanallu, Bellary. Essay competition on the importance of Good Governance Month and AIDS Day. A lecture program on AIDS awareness was conducted by Yerriswamy Community Health Officers, Kolangallu and first, second, third and consolation prizes were distributed to the students who won the essay competition.



19. Sky observation activity

On the occasion of Good Governance Month-2022, an astronomy lectures followed by sky observation activities were conducted in Moraji Desai residential schools in different taluks of Bellary district.

1. Date: 16/12/2022 - Morai Residential School, B.D. Halli (100 students)

2. Date: 17/12/2022 -Morai Residential School, Allipura (105 students)
3. Date: 24/12/2022 - Morai Residential School, Yerragudi (100 students)



20. Science Workshop for High School Science Teachers

One Day Science Workshop was organised on 20.12.2022 for Government and Aided High School Science Teachers of Bellary District on the occasion of Good Governance Month-2022 on basic competencies in the use of digital tools, passing package and process. This science workshop was inaugurated by Deputy Director (D) School Education and Literacy Department, Bellary. Following are the resource person for the event.

1. Mr. Sridhara Maya MN - Science Teacher, Prof. Shah, Guttur, Harihar T. Davangere District
2. Mr. Mohammad Ganif – E.C.O. Department of School Education and Literacy, Harappanahalli, Vijayanagar District
3. Mr. Basavaraja. M. – content inspectors. DDPI Office, Bellary participated.



21. Charles Babbage's birthday - A Lecture on Computer in Trending Technology

On the occasion of the birth anniversary of Charles Babbage a lecture was organised on 26/12/2022 at City Government Women's First Class College, Radio Park, Bellary College BA & B.Com. Total Beneficiaries: 228 student.



22. Mathematics Workshop for Government High School Mathematics Teachers

One Day Mathematics Workshop for Govt High School Mathematics Teachers of Bellary District was conducted at Bellary Sub Regional Science Center on 27/12/2022. The workshop was inaugurated by the BEO, Office of the Deputy Director, Department of School Education and Literacy, Bellary. Total Beneficiaries- 101 Maths Teachers.



23. National Youth Day

National Youth Day program was organized by the Sub-Regional Science Centre, Bellary for the students of Government High School, Rupanagudi Bellary and the students were addressed by Dr. U. Srinivasa Murthy, Lecturer, Government Pre-Graduate College for Girls, Bellary conducted a lecture program on National Youth and distributed first, second, third and consolation prizes to the students who won the elocution competition. Total Beneficiaries 178 students. It helped in developing positive thinking among the youth. It helped to motivate the students to develop values like discipline, patience, truth, honesty etc. in life.



24. Science Exhibition

Science model making and science material display competition was organized for 8th and 9th class students of various government, aided and unaided schools at Sub-Regional Science Centre, Bellary city. A total of 29 schools participated in the competition.



Contact:

Curator

Ballari Sub-Regional Science Centre,
Nallacheruvu, Near District Stadium, Ballari-583102

Phone: 96067 13536

Email: dsrscbellary@gmail.com

SUB-REGIONAL SCIENCE CENTRE, RAICHUR

Vijnana Betta, Mantralaya Road, Raichur - 584103

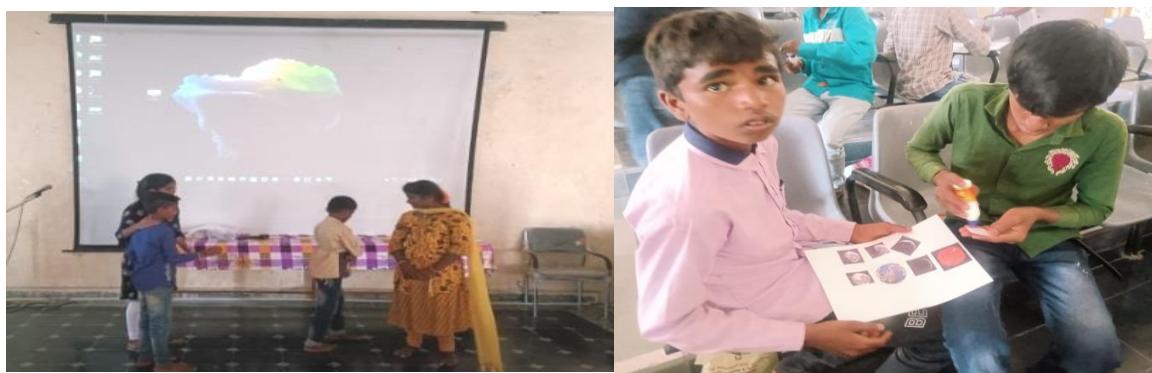
Introduction:

Science Centre, Raichur came into existence on 12.11.1997. The science centre was upgraded to Sub-Regional Science Centre on 18.11.2015. The built up area of the centre is of approximate 700.00 sq mtrs, which includes galleries, temporary exhibition area, activity area, auditorium, mini conference room, computer lab cum e-science library, small workshop for maintenance of exhibits and other public facilities. Proposal is sent to Ministry of Culture for developing the centre with fully fledged facility of Category II science centre under SPOCS scheme.

A Planetarium is also being setup in the vicinity of the science centre. The civil works for the same have been completed and action plan for the completion of the project is submitted by the district administration. The proposal for establishment of full-fledged outdoor science park is also submitted.

1. Summer Camp:

The summer camp was organized at Appanadoddi village of Raichur taluk. The students were taught about, Astronomy, creativity, painting, leadership, proper usage of water & soil, & importance of science & education. The activities related to, rotation of earth around sun, rotation of moon around the earth, new moon, full moon, difference between Solar & lunar eclipse, identifying phases of moon were conducted. 55 students of appandoddi village and surrounds participated in the programme. This programme was sponsored by Piramal Foundation & conducted in association with Bharat Gnan Vijnan Samiti (BGVS).



2. Zero Shadow Day:

The Zero Shadow Day was observed at Sub Regional Science Centre Raichur on 05.05.2022. Students & teachers from different schools participated in the programme.

The details of Zero Shadow Day were provided to the participants. Activities to demonstrate the phenomenon of Zero Shadow were also conducted. 28 teachers students & parents participated in the programme. This programme was sponsored by KSTePS & conducted in association with BGVS.



4. Aspirational district programme: workshop for school visiting officers regarding learning outcome in students:

The workshop was conducted on 07.05.2022 at sub regional science centre raichur. All the Block Education Officers, Block Resource Coordinators, Managers & other officers of education department participated in the programme. Information related to the key performance indicators was provided by the Deputy Director of Department of School Education & Literacy.



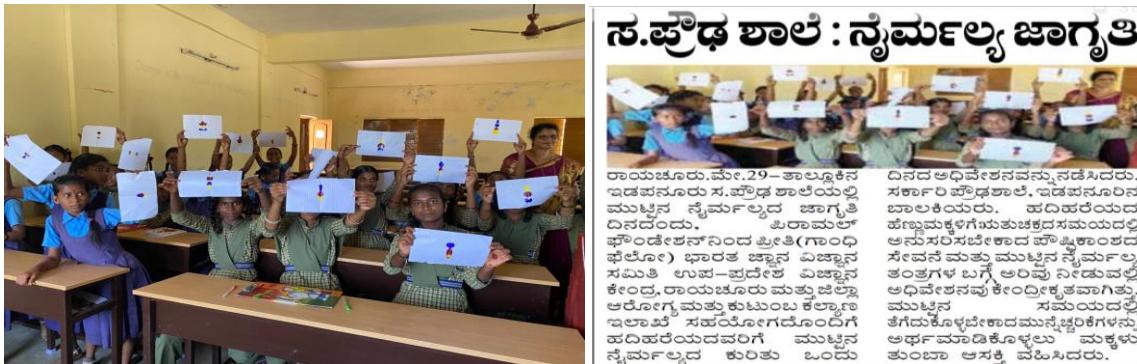
5. Science workshop for high school students:

The science workshop was conducted for SSLC students on 21.05.2022 at Sir C V Raman auditorium. Students involved in various Science activities on properties of light, newtons law of motion, magnetic & electromagnetic effects, gravity, conservation of energy, human anatomy etc. The demonstration of experiments related to the SSLC syllabus was also done. The programme was in association with Chalukya Career Academy Raichur.



6. Awareness programme on health & hygiene:

The programme was conducted on 29.05.2022 for girl students at Govt Highschool idapanur village of Raichur taluk, raichur district. 80 students participated in the programme. Sessions related to personal hygiene & healthy food habits were conducted. This programme was sponsored by Piramal foundation & conducted in association with Department of School Education & Literacy Raichur, District Health & family welfare department & BGVS Raichur.



7. Competitions for students on the occasion of birth anniversary of padmabhushana dr. H narasimhaiah:

The programme was conducted on 07.06.2022 for students at Govt Model Higher Primary School of Devanapalli village of Raichur taluk, Raichur district. 59 students participated in the programme. Quiz & Essay competitions were held during the programme. Special lecture regarding the life of Dr H Narasimhaiah was also delivered.



8. International Moon Day:

The programme was conducted on 20.07.2022 for students at Sub Regional Science Centre Raichur. 24 students & teachers from various government high schools of raichur & devadurga taluk participated in the programme. Activities related to Moon phases, synchronious rotation of moon etc were conducted during the programme. Special lecture regarding the moon was also delivered by Dr A S Kiran Kumar, former

Chairperson ISRO thru hybrid mode. This programme was conducted in association with ISRO & Jawaharlal Nehru Planetarium Bengaluru.



9. World Environment Day:

The programme was conducted on 08.08.2022 for students at Sub Regional Science Centre Raichur. 32 students from Smt Renukadevi Sri Narasanagouda Public School of Raichur participated in the programme. Special lecture on Only One Earth was delivered & quiz competition was also conducted during the programme. Saplings were also planted during the programme.



10. Awareness programme for unnati sakhi's (women entrepreneurs) regarding food adulteration:

The programme was conducted on 01.09.2022 for women entrepreneurs of code unnati project of UNDP at Madar Chennayya Samskrutika Bhavana, Raichur. 23 women from MAnvi, Sirwar, Raichur & Devadurga taluks participated in the programme. Presentation regarding food & its adulterants & simple detection methods was done at the programme. Resource materials regarding the same was also provided. This programme was sponsored by UNDP Raichur.



11. Personality development programme for youths regarding development of scientific temper:

The programme was conducted on 02.09.2022 for Govt First Grade College Students at Sub Regional Science Centre Raichur. 88 students from GFGC Raichur participated in the programme. Special lecture regarding development of Scientific Attitude & Temper among youths was delivered by Prof. Dr. Ratan Chauhan, Navodaya college for Education.



12. Observation of partial Solar Eclipse:

The programme was conducted on 25.10.2022 for general public at Sub Regional Science Centre Raichur. 20 members participated in the programme and observed the phases of sun during the eclipse thru sun projection system and solar filter goggles. Special lecture regarding eclipse was also delivered.



13. Awareness programme regarding digital literacy, cyber security & industrial safety:



The programme was conducted on 09.11.2022 for Govt ITI College Students at Sub Regional Science Centre Raichur. 163 students from Govt ITI College Raichur participated in the programme. Special lectures regarding digital literacy, cyber security & industrial safety were delivered by the resource persons.

14. Special lectures: development of science & technology in industrial & Human welfare & its uses:

The programme was conducted on 10.11.2022 for Govt ITI College Students at Sub Regional Science Centre Raichur. 160 students from Govt ITI College Raichur participated in the programme. Special lectures regarding development of science & technology in industrial & human welfare & its uses, innovations, skill connect, financial assistance for young entrepreneurs, were delivered by the resource persons.



15. Science workshop for paramedical students:

The programme was conducted on 05.12.2022 for paramedical Students at Sub Regional Science Centre Raichur. 161 paramedical students from Raichur participated in the programme. Demonstrations & lectures regarding topics in Physics, chemistry & biology subject related to syllabus of paramedical course were delivered by the resource persons.



16. Special lecture on health & hygiene

The programme was conducted on 10.12.2022 for GHPs school Students at Sub Regional Science Centre Raichur. 103 students from GHPs Station Bazaar Raichur participated in the programme. Sessions regarding Health & Dental Hygiene were carried.



17. Awareness programme on personal hygiene & problems in adolescents:

The programme was conducted on 16.12.2022 for students of Govt Pre University College Girls at Sub Regional Science Centre Raichur. 109 students from Govt Pre University College for Girls, Munnurwadi Raichur participated in the programme. Sessions regarding Personal Health & Hygiene & problems of Adolescent Girls were carried.



18. Orientation programme for maths teachers regarding celebration of national mathematics day at schools:

The programme was conducted on 20.12.2022 for teachers of Govt Higher primary school & High Schools at Teacher Resource Centre, BEO Office Campus, Devadurga. 46 Government school teachers of devadurga taluk participated in the programme. Sessions regarding activities & development of TLMs for students in maths subject were carried.



19. School level mathematics workshop on the occasion of national mathematics day- 2022

The programme was conducted during the period 22.12.2022 to 31.01.2023 for students of 50 Govt schools at their respective schools. in the taluk. A total of 5261 students participated in the workshops. Sessions concentrated on underachieved mathematical outcomes in the students.



20. Science communication & propagation programme

The programme was conducted during the period 28.12.2023 to 31.01.2023 for students of eight Govt schools at their respective school premises. A total of 956 students participated in the programme. Under this programme various competitions were conducted to the students at their school level.



21. Light: reflection & refraction

The programme was conducted on 07.01.2023 for students of Smt. Renukadevi, Sri Narasanagouda Public School, Ashapur village. A total of Ten SSLC students participated in the programme. In this programme students were made to perform activities on Reflection & Refraction.



Contact:

Curator

Sub-Regional Science Centre, Raichur

Vijnana Betta, Rashtrakavi Kuvempu Vana, Mantralaya Road, Raichur-584103

Phone: 9916124929,

Email: srsc.raichur@gmail.com

SUB-REGIONAL SCIENCE CENTRE, KARWAR

Kaigha Nilayam Kodibhag, Karwar-581303

Introduction:

Govt. of Karnataka has set up Sub-Regional Science Centre at Karwar on 1st June 2017. Presently, the centre has Fun Science Gallery, Miniature Nuclear Gallery, Matsyalaya, marine museum, Marine Interpretation Centre and outdoor science park facilities for visitors. During the year 2022-23 the centre had conducted 28 activities for students, teachers and general public.

7 days **Science summer camp** was conducted for high school students consists of activities like model making related to science, maths, electronics and astronomy, bird watching and visit to Kaiga Nuclear Power Plant. "**International Moon Day**" was celebrated in collaboration with Jawaharlal Nehru Planetarium Bangalore and ISRO by conducting a online demonstration of activities and lectures for high school students. **Azadi ka Amrit Mahotsav was celebrated** in collaboration with NPCIL Kaiga by conducting essay, drawing, quiz competitions and visit to Kaiga nuclear power plant for high school and pre-university students. **Green Panthers of Uttara Kannada** an innovative programme successfully conducted for high school students of Uttara Kannada district. The main intention of the programme was to create awareness about biodiversity of Uttara Kannada district. **Partial Solar Eclipse** on 25.10.2022 and **Partial Lunar Eclipse** on 08.11.2022 were organized for students, teachers and general public. various programs such as teachers training, sky watching, science-mathematics model making competition and biodiversity awareness etc. were organized for teachers, students and the general public teachers as part of good governance month.

Programmes conducted during the year 2022-23

1. Zero Shadow Day

The Zero Shadow Day event was held online in association with Karnataka Science and Technology Promotion Society Bangalore, District Administration Uttara Kannada and Sub-Regional Science Centre Karwar for high school students of Karwar on 30.04.2022. Total 37 students participated in this programme.



2. Science Summer Camp

Karnataka Science and technology promotion Society Bangalore, District Administration Uttara Kannada and Sub-Regional science centre karwar organized Science Summer Camp for High School Students from 9th to 15th May 2022 at Sub Regional Science Centre Karwar. The main objective was to create awareness about science and technology among students by conducting various experiments. Totally 48 students from different schools of Karwar taluk attended the programme.



3. Coastal Cleaning and Environmental Awareness Programme

Karnataka Science and technology promotion Society Bangalore, Coastal & Marine Ecosystem Unit Karwar Division, Shivaji Education College Baad Karwar and Sub-Regional science centre karwar organized lecture Programme on coastal cleaning and Environmental awareness for B.Ed Students on 17.05.2022 at Sub Regional Science Centre Karwar. 49 people including teachers and students participated in the programme.



4. Green Panthers of Uttara Kannada (May 2022- October 2022)

Green Panthers of Uttara Kannada program was organized in collaboration with Karnataka Science and Technology Promotion Society Bangalore, District Administration and Zilla Panchayat Uttara Kannada and Sub-Regional Science Center Karwar.

In first phase trained Science teachers selected 100 students from their each taluk of Uttara Kannada district and conducted workshop for 1100 students. Taluk wise multiple choice test was conducted and selected taluk wise 15 (total 165) students and conducted subject wise training (wild life, Plants and ocean studies).



5. World Environment Day

KSTePS, District Administraion & Zilla Panchayat Uttara Kannada, District Police Department U.K., KSPCB, District Legal Services Authority, Forest Department Karwar Division Karwar, Educational Department U.K. and Sub-Regional Science Centre, Karwar organized Essay, Drawing Competition and Lecture Programme for High School Students of karwar taluk on the occasion of World Environment Day on 05.06.2022 at Sub-Regional Science Centre, Karwar. Total 84 students and teachers are participated in this programme.



6. International Moon Day- Workshop and Lecture Programme

KSTePS, JNP Bangalore, ISRO and Sub-Regional Science Centre, Karwar "International Moon Day" was organized online Activity Based Workshop and Lecture Programme on 20.07.2022. Total 46 people including students and teachers participated in this programme.



7. District level Sir C.V.Raman Science Quiz Competition

Karnataka Rajya Vijnana parishat, Department of Science and Technology, Government of Karnataka, Karnataka Science and Technology Promotion Society Bangalore, Public Education Department of Uttara Kannada and Sub-Regional Science Centre, Karwar organized **District level Sir C.V.Raman Science Quiz Competition** for High school students of Uttara Kannada on 20.08.2022 at Sub-Regional Science Centre, Karwar. Total 46 people including students and teachers participated in this programme.



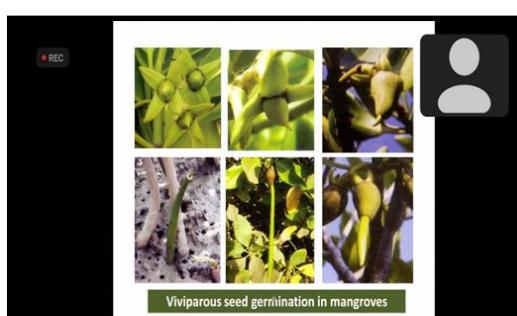
8. Azadi Ka Amrit Mahotsav- Essay, Drawing, Quiz Competition, Lecture Programme and Visit to NPCIL Kaiga Site

KSTePS, NPCIL Kaiga, And Sub-Regional Science Centre, Karwar conducted Essay, Drawing , Quiz Competition, Lecture Programme and Visit to Kaiga Site on the Occasion of Azadi Ka Amrit Mahotsav from 22 August to 25th August 2022 for High School and PU college Students of Karwar taluk. Total 1150 people including students and teachers participated in this programme.



9. National Level Webinar

A “National Level Webinar” was organized on 28.08.2022 for graduate and postgraduate students on Biodiversity in association with World Wildlife Federation



India
and

Sub-Regional Science Centre Karwar. 251 people including students and teachers participated in this programme.

10. International Beach Cleaning Day

Ministry of Earth Sciences (MoES), Govt. of India, District Administration Uttara Kannada and Sub-Regional Science Centre, Karwar celebrated International Beach Cleaning Day on 17.09.2022 from 7.00 am at Rabindranath Tagore beach Karwar. A total 150 people including staff and students from St. Michael's Convent High School and Post Graduate centre for Marine Biology are participated.



11. World Wildlife Week - Drawing Competition for Uttara Kannada High School Students

Karnataka Forest Department, Zonal Coastal & Marine Ecosystem Unit Karwar and Sub-Regional Science Centre, Karwar organized **Drawing Competition** for High Students of Uttara Kannada District on the occasion of **World Wildlife Week 2022** on 01.10.2022 at Sub-Regional Science Centre Karwar. 60 people including students and teachers participated in this program.



12. Partial Solar Eclipse observation

KSTePS, District Administraion Uttara Kannada, Sub-Regional Science Centre, Karwar and Agas 360 Sirsi organised Partial Solar Eclipse observation programme on 25.10.2022 at Kali River Bridge Karwar.100 people including officials, students, teachers and public participated in this program.



13. Partial Lunar Eclipse observation

KSTePS, District Administraion Uttara Kannada and Sub-Regional Science Centre, Karwar organised Partial Lunar Eclipse observation programme on 08.11.2022 at Kali River Garden Karwar. 150 people including officials, students, teachers and public participated in this programme.



14. Science Teacher's Workshop.

Karnataka State Council for Science and Technology Bangalore, Karnataka Science and Technology Promotion Society Bangalore, District Administration & Zilla Panchayat Uttara Kannada, Department of Public Education, sirsi Education District, Sub-Regional Science Centre Karwar, Science Club Yellapur and Vishwadarshan Education Society Yellapur conducted "**Science Teacher's Workshop**" on the occasion of **National Science day 2022** for High School Science Teachers of Yellapur and Mundgod Taluk on 01.12.2022 at Vishwadarshan Education Society Yellapur. Total 90 teachers participated in this workshop.



15. Maths Teacher's Workshop

Karnataka State Council for Science and Technology Bangalore, Karnataka Science and Technology Promotion Society Bangalore, District Administration & Zilla Panchayat Uttara Kannada, Department of Public Education, sirsi Education District, Sub-Regional Science Centre Karwar, Maths Club Yellapur, and Vishwadarshan Education Society Yellapur was conducted a "**Maths Teacher's Workshop**" on the occasion of **National Mathematics day 2021** for High School Science Teachers of Yellapur and Mundgod Taluk on 02.12.2022 at Vishwadarshan Education Society Yellapur. Total 90 teachers participated in this workshop.



16. Activities on sky observation and constellations

KSTePS, District Administration Uttara Kannada and Sub-Regional Science Centre, Karwar organized **Sky** watching Activity as part of Good Governance month on 10.12.2022 at Swami Vivekananda High School Kodibag Karwar from 5.00 pm to 9.00p.m. A program was held for the students, teachers and the general public to celebrate. Total 56 people participated in this programme including students, teachers and public.



17. Science Model Making Competition

KSTePS, District Administration Uttara Kannada and Sub-Regional Science Centre, Karwar organized Science Model Making Competition for students of Govt. High School Karwar as part of **Good Governance month** on 17.12.2022. Total 54 people participated in this programme including students and teachers



18. Mathematics Quiz Competition

KSCST Bangalore, KSTePS Bangalore, District Administration & Zilla Panchayat Uttara Kannada and Sub-Regional Science Centre Karwar organized Mathematics Quiz Competition, Lecture and Prize Distribution Program on the occasion of National **Mathematics Day** 2022 for Class 8 and 9 students of Karwar taluk on 22.12. 2022 at Sub-Regional Science Centre Karwar. Total 86 people participated in this programme including students and teachers.



19. Drawing Competition

KSTePS, District Administration Uttara Kannada and Sub-Regional Science Centre, Karwar **organized** Drawing Competition for students of Ashaniketan Residential School, Karwar as part of **Good Governance month** on 24.12.2022. Total 56 people are participated in this programme including students and teachers.



20. Lecture on Marine and Mangroves Plants

KSTePS, Forest department Karwar, District Administration Uttara Kannada and Sub- Regional Science Centre, Karwar organized Lecture programme for students of Marine Biology PG Centre Karwar as part of **Good Governance month** on 30.12.2022 & 31.12.2022. Total 80 people participated in this programme including students and teachers and forest department officials.



21. 30th District Level Makkala Vijnana Samavesha 2022

KRVP, NCSTC, DST, KSTePS, DDPI U.K and Sub-Regional Science Centre, Karwar organized **30th District Level Makkala Vijnana Samvesha 2022** programme for High school students of Uttara Kannada District held on 10.01.2023 at Sub-Regional Science Centre Karwar. Total 32 people participated in this programme



22. Lecture programme on Ocean Biodiversity

Sub-Regional Science Centre, Karwar organized **Lecture** programme on Marine Biodiversity for Degree students of Kalaburgi District held on 22.01.2023 at Sub-Regional Science Centre Karwar. Total 46 people participated in this programme including students and teachers.



23. Nidhi Aapke Niakt District Outreach programme

District Administration Uttara Kannada, Sub-Regional Science Centre, Karwar and Employee's Provident Fund organisation, District Office Karwar organised Nidhi Aapke Nikat Outreach Programme for Employees of Various departments of Uttara Kannada on 27.01.2023 at Sub-Regional Science centre Karwar. Total 44 people participated in this programme.



24. N.E.P. Training Workshop

Education Departments (DDPI & B.E.O office Karwar), Karwar Educational District and Sub-Regional Science Centre, Karwar organised **National Education Policy 2020 Training Workshop** for Primary & High School Teachers of Karwar Taluk on 31.01.2023 at Sub-Regional Science Centre Karwar. Total 85 People participated including teachers and C.R.P. in this programme.



Contact:

Curator

Sub-Regional Science Centre, Karwar

Kodibhag, Karwara-58130,

Phone: 08383 225626

Email: srsc.karwar@gmail.com

SUB-REGIONAL SCIENCE CENTRE, BIDAR

Kabirwada, Gadgi road, Bidar-585401

Introduction:

The Sub Regional Science Centre, Bidar was established to impart practical knowledge of science for the Visitors. The various fun science galleries and outdoor science park at the centre includes experiments related to the various principle based concepts of science which can be learnt easily by the Visitors. Aspirants have the opportunity to see, think and learn by operating the models. The students from rural areas are encouraged to participate in various educational programs and Scientific Competitions, conducted by the Science Centre plays an important role in developing scientific attitude among the students in the fields of Science and Technology.

Following are the details of the programs organized in the year 2022-23:

1. World's Food Day

The program was conducted to create awareness among the Students about nutrients in food, food consumption patterns and food adulteration on 15.12.2022. Total of 63 students and 10 teachers participated in it.



2. National Mathematics Day

National Mathematics Day was observed at the science center by organizing a lecture on the subject of mathematics in daily life. Nearly 71 students and 10 Teachers participated in the program.



3. Essay Competition on Bharat Ratna Sri. Atal Bihari Vajpayee Life achievement and his Contribution to Science and Video Demonstration.

The program was conducted to create awareness among the Students about Sri. Atal Bihari Vajpayee Life achievement and his contribution to Science by organizing Essay competitions to school students on 29.12.2022 at the center. About 41 students and 10 teachers participated in the program.



4. Quiz Competition on Science Curriculum and Current Affairs

A quiz competition on Science Curriculum and Current Affairs was conducted on 31.12.2022. Govt. High School Bhalki students participated in the program.



Conclusion:

Every day the students from various schools are visiting to Sub Regional Science Centre Bidar. The various principle based concepts of science are explained practically by operating the models/ exhibits located at the Science centre. The practical knowledge from the various exhibits is being taught for rural students at the centre. More than 7500 students have been visited Sub Regional Science centre Bidar from April 2022 to January 2023.

Govt. High School, Gadgi

Dt: 019/08/22



No of Students:- 29

No. of Teacher:- 01

Morarji Desai School & College, Kamthana

Dt: 02/09/22



2022/9/2 15:30

No. of Teacher:- 07

Govt. Urdu Med. High School, Kamathana

Dt: 02/09/22



No of Students:- 35

No. of Teacher:- 03

Govt. High School Ghotal Basavakalyan

Dt:- 02/09/22



No. of Teacher:- 06

Contact:

Curator

Sub-Regional Science Centre

Kabirwada, Gadgi road, Bidar-585401

Phone: 8123255604

Email: srscbidar@gmail.com

DR. H. NARASIMHAIAH SUB REGIONAL SCIENCE CENTER

Hossur, Gauribidanur Taluk, Chikkaballapura District - 561210

Introduction:

Dr H Narasimhaiah Sub-Regional Science Center is being established by the KSTePS of the Department of Science and Technology, Government of Karnataka and Chikkaballapura District Administration. This centre is established on the memory of Padma Bhushan Dr. H. Narasimhaiah as a tribute to the legendary, who was a great scholar as well as science promoter and fought against superstition.

The objectives of the Science Centre are to promote Science and Technology developments among students and general public, creating activity based environment for school students and inculcate innovative mind-set. A full fledged Sub regional Science center was inaugurated and opened to Public on 28th February 2022 as part of the National Science Day.

In the year 2022-23, various workshops will be organized by the Science Center for students, teachers and the publics. Through this work is being done to arouse interest, activity and curiosity about scientific attitude, science and technology development.

1. Children's Science Camp

Dr. Children's Science Camp was organized by Dr. H Narasimhaiah Sub-Regional Science Center for 5 days from 28-06-2022 to 02-07-2022 at Adarsha Vidyalaya Gauribidanur. Students of Oxford University participated as resource persons in the children's science camp. Inaugural program was arranged on 28-06-2022. The camp was inaugurated by Prof. K. P. Jareddy, retired scientist, Indian Institute of Science, Bangalore.



2. Solar Eclipse Viewing Program:

Public and school students were enabled to view the solar eclipse on 25-10-2022 on behalf of Dr. H Narasimhaiah Sub-Regional Science Center. A telescope and solar

filter were arranged for viewing the solar eclipse. 275 people participated in this program.



3. Mathematical Sensation Programme:

A Mathematics Sensation Workshop was organized at Science Center on 29-10-2022 for the students of Government High Schools for the year 2022-23. Shri V. Sivashankarashastri Science Coordinator, Kolar, participated in the said workshop as a resource person. 50 students from different schools participated in this program.



4. Workshop on Higher Education Opportunities for Science Students:

An interaction workshop was organized with students on the subject of Higher Education Opportunities on 28-10-2022 at Science Center for the year 2022-23. Oxford University alumni Leon romano Brandt participated as a resource person in the said workshop. 50 students from various degree colleges participated in this program.



5. Visit of Public and Dignitaries

In the year 2022-23, students, public and many dignitaries are visiting the sub-regional science center, getting information about the science models and exhibits in the science center and viewing the planetarium in the science center. Total number of beneficiaries for the year 2022-23 was 22468



Contact:

Member Secretary and Nodal officer
Dr. H Narasimhaiah Sub-Regional Science Center
Hossur, Gauribidanur Taluk,
Chikkaballapura District. 561210
Phone: 9740174165
Email: drhnschosur@gmail.com

SUB-REGIONAL SCIENCE CENTRE, BAGALKOT

UHS Campus, Bagalkot-587104.

Introduction

Bagalkot sub regional science centre was established in university of horticultural Science campus. The objective of the sub regional science centre is to develop science and technology among students, teachers, and public peoples of the district and create awareness about science and scientific spirit. To complement science education imparted in the collages and to inculcate scientific ideas in the students, it is complimentary to organize educational activities.

Workshops and Seminars:

1. Workshop: Importance of Science and Technology in Improving Standard-Of Living“ Agriculture Sector” and “importance of E-Governance”

- Bagalkot Sub regional Science Centre has organized workshop on Importance of Science and Technology in Improving Standard-Of Living“ Agriculture Sector” and importance of “E-Governance” under the joint auspices of Dept. of Public education (DDPI) on 22.12.2022 at Sub Regional Centre auditorium, in which a total of 50 highschool teachers of Bagalkot district were participated.
- **Mr.K.D.Badiger** Deputy Director, Dept. of Public education (DDPI) Bgalkot was present to inaugurate the program and started the program by watering the plant along with other dignitaries.
- Further **Dr.Ramachandra Naik**, Dean Student welfare UHS and Member SRSC Bagalkot who came as chairman and resource person for this program and spoke in detail about how e-governance is helpful in present days and how public should get its benefits throgh examples.
- Further, another resource person of the workshop **DR.Raman Gowda** Asst. Prof., UHS Bagalkot spoke and explained in detail about the advantages and disadvantages of the use of science and technology in human life style.



2. Seminar : “Importance Of Cereals In Diet”:

- Bagalkot Sub regional Science Centre has organized seminar on “**Importance of Cereals in Diet**” under the joint auspices of **Murarji Desai Residential High School Muranal (P.K)** on 12.12.2022 at Sub Regional Centre auditorium, in which total 70 no. of highschool students and teachers of Murarji desai high school of Bagalkot district were participated.
- **DR.T.B.Alloli**, Registrar and Member secretary SRSC Bagalkot, was inaugurated the program by watering the plant along with other dignitaries.
- Further, **Dr.B.R.Athani** resource person of the program spoke to the students in detail about the benefits of using grains in the diet and by giving the processed packets of grains to the students, he told about the healthy information of respective grains. Accordingly he shows some videos regarding grains and informed the students about the detailed cultivation and processing method of grains, further he called upon students to visit processing unit of our industry for more information.



3. Science Awareness programmes:

❖ Govt High School Simekeri-Taluq/District-Bagalkot—“Science Exhibits Demonstration Program”

- Bagalkot Sub regional Science Centre was organized “Science exhibits demonstration program” on 05.06.2022 for 10th standard students of Govt high school Simikeri Bagalkot.
- A total 80 no. of students and fellow teachers were participated in Science exhibits demonstration and got information about science exhibits.



❖ **University Of Horticultural Sciences –“Eye Donation Awareness programme”:**

- Bagalkot Sub regional Science Centre was organized seminar on “Eye Donation Awareness programme under the joint auspices of eye bank and research foundation, M.M.Joshi Eye Institute hubli on 23.09.2022 at auditorium, UHS Bagalkot, in which a total of 100 students and teachers and other staff members of university of horticulture were participated.
- The program was chaired by **Dr. K.M.Indresh Vice Chancellor University of horticultural sciences**. As chief guest of **Dr.krishna prasad** M.M.Joshi Eye Institute hubli and another guest **Dr.Ramachndra naik** Dean Student welfare UHS bagalkot were present.



❖ **Swami Vivekanand International School Bilagi– “Science Awareness Programme”**

- Bagalkot Sub regional Science Centre was organized “**Science awareness programme**”under the joint auspices of Swami Vivekanand International School on 18.11.2022 at Swami Vivekanand International School, Bilagi in which a total 85 no. of students and teachers were participated.
- **DR.T.B.Alloli**, Registrar and Member secretary SRSC Bagalkot, was inaugurated the program by watering the plant along with other dignitaries.
- Bagalkot sub regional science centre Was organized “**Essay competition on Elimination of superstitions**” at Swami vivekanand international school Bilagi, as part of Science awareness programme”.Prizes were distributed by sub regional science centre bagalkote to the winners of essay competition.



❖ **R.B.G Govt high school lokapur-“Science awareness programme”:**

- Bagalkot Sub Regional Science Centre was organized “**Science awareness programme and “E-Governance month”** under the joint auspices of **R.B.G Govt High School** on 02.12.2022 at R.B.G Govt High School Lokapur in which a total 150 no. of students and teachers were participated.
- **DR.T.B.Alloli**, Registrar and Member secretary SRSC Bagalkot, was inaugurated the program by watering the plant along with other dignitaries. **DR.T.B.Alloli**, Registrar and Member secretary SRSC Bagalkot, told the students about the importance of scientific thinking program by making them aware of the good deeds and sacrifices being practiced in the present society with examples.
- Bagalkot sub regional science centre was organized **Essay competition** on “**Importance of E-Governance**” at R.B.G Govt high school lokapur, as part of “Science awareness programme and E-Governance month”. Prizes were distributed by Sub Regional Science Centre Bagalkot to the winners of essay competition.



4. “Science Exhibits Demonstration

❖ **Govt High School BTDA, Taluq/District Bagalkot – “Science Exhibits Demonstration”**

Sub regional Science Centre Bagalkot was organized a Science exhibits demonstartion program for the students of Govt. High school BTDA Bagalkot on 29.12.2022.



❖ **Govt High School Tolamatti, Taluq:Bilagi, District Bagalkot – “Science Exhibits Demonstration”**

Sub regional Science Centre Bagalkot was organized a Science exhibits demonstartion program for the students of Govt. High school Tolamatti Tq:Bilagi and Dist: Bagalkot on 31.12.2022.



5. Celebration of Important Days:

❖ **“World Environmental Day-2022”**

- Bagalkot Sub Regional Science Centre was organized “World Environmental Day-2022” under the joint auspices of Karnataka Milk Producer organization Bagalkot, National service scheme, UHS Bagalkot on 05.06.2022.
- **Mr.T.Boobalaan**, CEO Bgalkot inaugurated the program and said that the public should pay more attention to the elemination of plastic and take all facilities available from the district administartion to protect the environment.



❖ **Dr.H.Narasimhaiah’s Birth Anniverasry and world environment day:**

- Sub regional Science Centre bagalkot was organized celebration of “**Dr.H.Narsimhayya’s Birth anniversary and World environmental day-2022**” under the joint auspices of Adarsha Govt High School Navanagar Bagalkot on 06.06.2022 at Adarsha Govt High School Navanagar Bagalkot in which total no of 200 students and teachers were present.
- Dr.T.B.Alloli, Registrar and Member secretary, SRSC Bagalkot was inaugurated the program by watering the plant along with the dignitaries.

- Accordingly, He said that scientific thoughts are very necessary for today's stupidity and superstitions that have made the society sick. In this regard, Dr.H Narsimhayya challenged these and said that "science is necessary for strong society" and aslo informed the student to protect the environmental assets



❖ International Moon Day:

Sub regional Science Centre Bagalkot, Jawahar Lal Nehru planetarium Bangalore, ISRO Centre (ISKHAU) was jointly organized celebration of "International Moon Day" for the students of **Shri Biluru Gurubasav Public School Muranal (P.K)** on 20.07.2022 at Sub regional Science Centre auditorium in which total No. 46 students and teachers were participated in this event.

Dr.T.B.Alloli, Registrar and Member secretary, SRSC Bagalkot was inaugurated the program by watering the plant along with the dignitaries.

Dr.T.B.Alloli, Registrar and Member secretary, SRSC Bagalkot Addressed the program said that students should be aware of the importance of international moon day and some scientific aspects of the moon. Accordingly he informed the students to get more information and develop their scientific thinking by participating in the workshop conducted by the Jawahar Lal Nehru planetarium Bangalore.



❖ **International ozone day:**

Sub regional Science Centre bagalkot was organized celebration of “**International Ozone Day**” under the joint auspices of **Govt High School kerur**, Taluq-badami dist: Bagalkot on 20.09.2022 at Govt High School kerur in which total no of 80 students and teachers of Govt High School kerur participated.

Dr.T.B.Alloli, Registrar and Member secretary, SRSC Bagalkot inaugurated the program by watering the plant along with the dignitaries.

Prizes were distributed to the winners of the “**science Quiz Competition**” which is organized by Sub regional Science Centre to the students of Govt High School kerur on **17.09.2022** as part of **international ozone day program**.



❖ **“Karnataka Rajyotsava-2022”:**

Sub regional Science Centre bagalkot was organized “**Karnataka rajyotsava**” on 01.11.2022 at SRSC auditorium.

Dr.T.B.Alloli, Registrar and Member secretary, **Mr. Iranna Bulla**, Curator, **Mr.Asif Bagwan**, Technical Assistant, **Mr.Ganaganagouda Patil**, Asst, and Students of Govt.High School Kesanooru were present in the program.



6. Inauguration Ceremony Of Sub Regional Science Centre Bagalkot:

Inauguration ceremony of Sub Regional Science Centre Bagalkot was organized in UHS Auditorium on 29.12.2022, which was established under the auspices of Karnataka Science and Technology Promotion Society, Dept. of Science and Technology. **Shri.P.C.Gaddigoudar**, MP Bagalkot was inaugurated the SRSC Bagalkot.

Further, **Shri.P.H.Pujar**, MLC, Bagalkot inaugurated the outdoor exhibits of SRSC Bagalkot and said that students should take the advantages of these science exhibits to develop scientific thinking.

Continuing, **Dr.T.B.Alloli**, Registrar and Member secretary, SRSC Bagalkot spoke and elaborated about the science awareness programs organized by SRSC, and informed that basic objective of SRSC is to promote the science awareness among the students, teachers, public.



Contact:

Registrar/Member Secretary
Sub-Regional Science Centre, Bagalkot
UHS Campus, Bagalkot
Phone: 9738855762
[Email: sciencecentrebgk@gmail.com](mailto:sciencecentrebgk@gmail.com)

SUB-REGIONAL SCIENCE CENTRE, DAVANAGERE

Hulupinakatte, Anagodu ,Davanagere-577566

1. World Environment Day

Purpose: Creating awareness in the society about the environment and to know the status of the environment at the international level, to realize the need for a clean environment and to create awareness among the people about environmental protection.

Activity Details: As part of the World Environment Day, Davangere City Forest Department organized a program on 06/06/2022 by planting saplings at Davangere Science Center and Government High School, Haluvarti and the available children and teachers were made aware of cleanliness and planting in schools and environment.



2. World Population Day

Purpose: Population control, creating awareness of population problems among the masses and sex education, girl child education and awareness about sexually transmitted diseases.

Program Details: A special lecture workshop for high school children and an essay competition for children were organized on the occasion of World Population Day on 11.06.2022 at Sub-Regional Science Centre, Davangere, Sri Marulasiddeswara High School, Anagodu, Government High School, Haluvarti and Government High School, Kandanakovi.



3. World Environment Day

World Environment Day program was conducted on 28.07.2022 at Mahila Seva Samaj High School to create awareness about environmental protection. An art competition was organized for the high school children of the city. Total 24 students are participated in competition.



4. World Food Day

World Food Day program was conducted to create awareness among students about the severity of hunger and poverty and informed that nutritious food is necessary for everyone to live a healthy life. A lecture on nutritious food was organized for college students on the occasion of World Food Day. Total 144 college students and teachers are participated in the programs.



5. Sir M Visvesvaraya Birth Anniversary / Engineers Day

To pay tribute to the nation-building engineering profession and commemorate the proud father of India's engineers Sir M Visvesvaraya Birth Anniversary/Engineers Day was celebrated on 15.09.2023 at 10.00 am at D.R.R. Government Polytechnic, Davanagere. A technical seminar on Internet of Things related to science and technology was organized for the students of Polytechnic College on the occasion of Engineer's Day and also to discuss the role of engineers in the development and growth of science and technology.



6. World Ozone Day

World Ozone Day was celebrated on 01.12.2022 at Government First Class Women's College, Davangere to know the overview of ozone layer depletion and to know the ill effects of ozone layer depletion. A drawing competition was organized for the graduate college students of the district on the theme of "To know the protection measures of ozone layer in this program" and "To review the depletion of ozone layer and its role on global warming control environment and human life".



7. World AIDS Day Celebration

World AIDS Day was celebrated on 0.6.12.2022 at Government First Class Women's College, Davangere to create awareness about the ways in which AIDS is spread and about AIDS and to inform about the necessary preventive measures regarding the AIDS disease. A lecture was organized for graduate college students on AIDS awareness and preventive measures. Around 93 Students and Teachers/Lecturers (93) were participated in the program. This program was inspired to show that although AIDS is a dangerous disease, if you follow a healthy lifestyle, you can live for many years and the program created awareness about the misconceptions about AIDS.



8. Good Governance Month

On the occasion of Good Governance Month a lecture series was organized to graduate college students of the district on 06.01.2023 at Government First Class Women's College, Davangere. Around 93 Students and Teachers/Lecturers are benefited from this program. This program helps to know the discipline rules in

administration for students and teachers from lectures on good administration and encouraging adoption



9. Workshop for Science Teachers

A practical workshop for the government high school science teachers conducted for two days on 07.12.2022 and 08.12.2022 at Makanur Maleshappa College of Education, Davangere. The main objective of the workshop is to train the teachers in teaching the concepts of the subjects in a simple manner and achieving meaningful learning through activities. This program was encouraged to develop scientific attitude, positive thinking and learning philosophy in students through teachers. Science learning among teachers was effectively achieved. Total 111 teachers were participated in the Workshop.



Contact:

Curator

Sub-Regional Science Centre, Davanagere
Hulupinakatte, Anagodu, Davanagere-577566
Phone : 9742313992, Email: srscdavanagere@gmail.com