

**ANNUAL REPORT- 2023-2024 (April 2023 – March 2024)**  
**ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE AND TECHNOLOGY**  
**DEPARTMENT OF SCIENCE AND TECHNOLOGY, GOVT. OF ARUNACHAL PRADESH**

**About the Council:**

To establish the importance of encouraging and promoting scientific and technological activities in the states and union territories for the overall socio-economic development of the country, the Government of India's Department of Science & Technology (DST) initiated a scheme called "Assistance for Development of State Council for Science & Technology" during the Sixth Five Year Plan. Its main objectives were to assist the states and union territories to set up State Councils for Science & Technology to act as focal forums in the formulation, planning, coordination, and promoting scientific and technological activities within their respective states. The DST has performed a catalytic role to sensitize almost all the states and union territories in the country and helped establish state science & technology councils. Accordingly, the Government of Arunachal Pradesh considered the necessity to set up an organization to identify the areas in which science & technology can be applied for the development of the state in particular, to properly utilize natural resources through perspective planning for rural development and improvement of the socio-economic status of the state. To promote scientific and technological services in the state, the Arunachal Pradesh State Council for Science and Technology (APSCS&T) was established in 1992 as an autonomous organization under the state government's Department of Education and registered under the Societies Registration Act, 1860 (Extension to Arunachal Pradesh, 1978) and later brought under the Department of Science and Technology, Government of Arunachal Pradesh in 1998 with the prime objectives of playing a catalytic role in the application of science and technology to address local issues for development purposes and popularize science and technology in the state. The APSCS&T is also the nodal agency for the implementation of the program of the Government of India's Department of Science & Technology. Its administration and management are conducted by its Executive Committee comprising of a Chairperson, Secretary, and Commissioners to the state government. Its daily affairs and administration are looked after by the Chief Executive, i.e., Director/Member Secretary. Additionally, the Department of Science and Technology (DST) was created in 1998 to provide scientific and technological services and guide the overall development strategy for achieving sustainable development in the state.

**Objectives of APSCS&T**

- a) To indicate optimum development of untapped new and renewable sources of energy in Arunachal Pradesh by applying contemporary scientific research and appropriate technology.
- b) To plan research and development programme for academic research and development in existing institutions of the state.
- c) To assist the State government in developing suitable Science & Technology structures to ensure and promote the application of proper scientific method and technology in rural area that will assist the administration in all matters relevant to application of science and Technology in the regional development and preparation of perspective planning.

- d) To liaise with national organizations in facilitating collaboration and transfer of scientific and technological know-how.
- e) To recommend means of popularizing the use of Science and Technology amongst the people of the State and utilization of mass media, participation in and organization of seminars, exhibitions and other such related activities and also development of application centers, Museum etc.
- f) To evolve a long term science & technology policy and programme keeping in view the natural resources/geographical features and socio-economic conditions available in the state.
- g) To ensure that Science & Technology is harnessed meaningfully for the development of the state.
- h) To evolve strong and workable mechanism for the transfer of indigenous technology
- i) To identify projects and programmes to improve the conditions of the rural population and improve the quality of the health and hygiene.
- j) To promote and fully involve the various departments connected with development schemes as well as the people.
- k) To promote all activities which are necessary or conducive to the attainment of the objectives of the society.

Arunachal Pradesh Science Centre was established under the aegis of Arunachal Pradesh State Council for Science and Technology and inaugurated on 3<sup>rd</sup> December 2005, the then Chief Minister, ShriGegongApang at the Indira Gandhi Park in Itanagar. Since its establishment, it has become a centre for exhibitions and expositions that explore the knowledge unknown.

The Centre for Bio resources and Sustainable Development in Arunachal Pradesh was taken up by Arunachal Pradesh State Council for Science & Technology (APSCS&T), Department of Science & Technology, Govt. of Arunachal Pradesh with Department of Biotechnology (DBT), Ministry of Science & Technology, Government of India during December, 2016 with the mission for Development of Bio-Resources and their sustainable utilization through biotechnological interventions for socio-economic growth in Arunachal Pradesh.

The centre was operating from the makeshift temporary infrastructure developed in the permanent campus at Kimin with effect from 1st October, 2018. It was on 9<sup>th</sup> November 2021, Dr. Jitendra Singh, Hon'ble Union Minister of State (Independent Charge), Science and Technology, Earth Sciences, PMO, DoPT, DoS, DoAE, Govt. of India, inaugurated the Centre for Bio resources and Sustainable Development as a permanent centre at Kimin, in Papum Pare district of Arunachal Pradesh followed by inauguration of Rural Technology Demonstration Centre and Launch Skill Vigyan programme at Kimin, Papum Pare in the presence of Shri Chowna Mein, Deputy Chief Minister, Govt. of Arunachal Pradesh, Shri Tapir Gao, Hon'ble Member of Parliament (Lok Sabha), Shri Honchum Ngadam, Hon'ble Minister Science and Technology, RWD, Govt. of Arunachal Pradesh, Shri Nabam Rebia, Hon'ble Member of Parliament (Rajya Sabha) and Shri Bamang Mangha, Chairman, APSCS&T and several other delegates. Now APSCS&T have three administrative divisions functioning under the department of science and technology, Govt. of Arunachal Pradesh.

## **A :Projects / Programmes and other activities taken up by APSCS&T (APSCS&T, APSC and DBT)during the year 2023- 2024.**

### **A : (1)RESEARCH AND DEVELOPMENT PROGRAMMES TAKEN UP DURING THE YEAR**

#### **Documentation of Natural and intangible heritage -indigenous belief system and ethnic traditional rituals among the Adi, Galo, Nyishi and Apatani tribes in Arunachal Pradesh(Funded by SHRI Division, DST, GoI)**

Different species of plants and animal finds their uses in every belief systems as these people are extensively used in different traditional rituals and cultural practices from ceremonies to festivals to rituals. Religious beliefs of the ethnic people of Arunachal Pradesh are mainly charter for the rituals. Their rituals are symbolic representations of age-old myths, beliefs and traditions.

In this, a priest, irrespective of community, believes to have psychic superiority with certain spiritual qualities and also the ability to foretell things to come. It is indeed



***Priest thought about the images they prepare for curing deities***

an uphill task to preserve and sustain the traditional

priesthood culture in the face of modernity and declining priest.



***Community ritual being perform at Tadinvillage , West siang district***

Through this project it is envisage to document the Natural and Intangible heritage and Priestly languages practices by the ethnic people of the selectedcommunitiesof Arunachal Pradesh i.e. Adi, Galo, Nyishi and Apatani tribes that are intertwined with the indigenous belief systems in their daily life as well as good and trendsetter for the society in a way to preserved as a valuable oral literature. Till now these oral literatures could not be handed down due to lack of written literature. The creation of digital data base and scientific validation on science behind the use of particular species of plants and animals in specific traditional practices will provide for further scientific study to patronage the priesthood institution of the community.

#### **Orchid Conservation and Rural Entrepreneurship Development**

Under the PMC, Department of Biotechnology, Government of India-approved programme “State-of-the-Art Orchidarium at DBT-APSCS&T CoE for BRSD, Kimin for Conservation and Multiplication of Priority Orchid Species along with Establishment of Satellite Production Units in Selected Villages for Promoting Orchid-Based Entrepreneurship in Rural Areas of Arunachal Pradesh,” the CoEhas been working towards a multi-pronged approach to conserve and propagate priority orchid species endemic to the region. The establishment of the Orchidarium serves as a hub for advanced research on orchid conservation, including micropropagation techniques for large-scale multiplication and preservation of rare and threatened orchid varieties. Furthermore, the CoE is actively collaborating with rural communities for successful functioning of the satellite

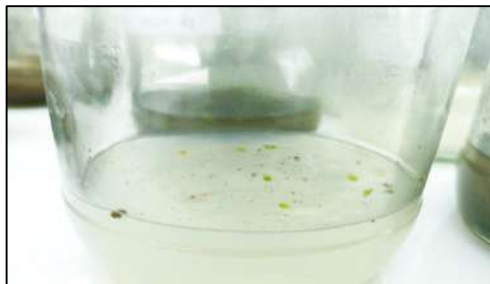
production units established by the CoE in the selected villages of Arunachal Pradesh, aiming to transfer knowledge and skills for orchid mass cultivation. This initiative not only strengthens *in-situ* and *ex-situ* conservation efforts but also empowers rural populations by promoting orchid-based entrepreneurship, creating sustainable livelihoods, and contributing to the socio-economic development of the region. Similarly, the CoE has been diligently advancing its R&D efforts to accomplish the following targeted objectives:

**Achievements:**

**(1). Regeneration of ♀ *Vanda tessellata* X ♂ *Vanda coerulea*:**

Regenerating hybrids from two intraspecific orchids involves several steps, mainly focused on the germination of seeds, culture media, and care of the seedlings post primary hardening. One such intraspecific cross was made in between *Vanda tessellata* (♀) X *Vanda coerulea* (♂). The hybrid seed was obtained through hand pollination. Once the seeds were matured, the capsule was collected and the seeds were cultured on different culture media out of which the earliest germination was observed in Basal KC Media. Post germination, the seeds at PLB stages were further sub-cultured in different growth media in controlled sterile conditions with proper monitoring. The fully grown seedlings were maintained in in-vitro condition until they developed robust shoot and root systems and were then moved out for primary hardening at the Greenhouse potted in a suitable orchid potting mix.

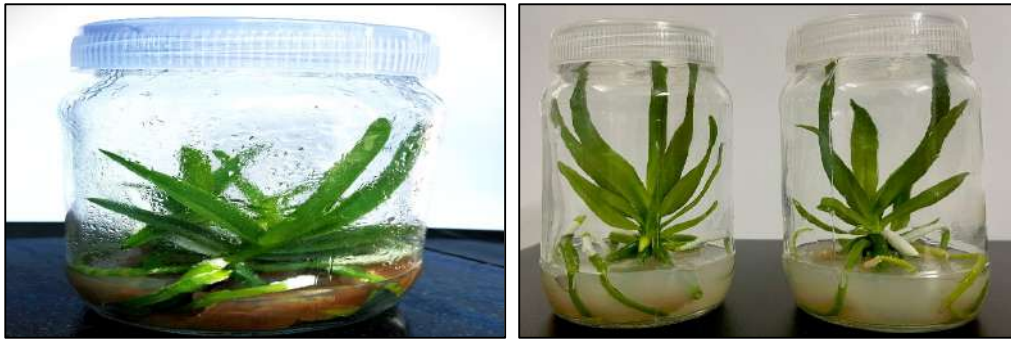
The hybridization between intraspecies of *Vanda tessellata* (♀) X *Vanda coerulea* (♂) is among first of its kind and the seedlings developed are of first-generation progeny. The seedlings are being taken care of at the Greenhouse of the CoE awaiting their flowering and further molecular works on these seedlings will be continued.



Seed Germination and PLBs



Initial Plantlets



Well- formed Plantlets with stable Root & Shoot System



Plantlets out for Primary Hardening after Recording its Physical Data

## (2). Standardizing Methodologies for the Vegetative Propagation of the Indigenous orchids.

Methodologies have been standardized towards increasing the propagation of the orchids through replication and improvement of the standard existing methodologies. Experiments have been conducted to obtain the best media, best choice of the explants and understanding other requirements for growth of the orchids. These methodologies are being disseminated to the farmers, entrepreneurs, SHGs for cultivation of orchids.



Vegetative propagation of Orchids through Stem cuttings, Keiki's and Pseudobulbs



Potting media - Brick pieces, Charcoal, Paddy husk, Tree barks, Coconut chips & Sphagnum Mosses



Experiments conducted to choose the best combination of natural media for growth of the *Dendrobium* spp



Vegetatively propagated commercial orchid plantlets of *Dendrobium* and *Oncidium* hybrid.

### **Translational R&D based on traditional knowledge of Medicinal and Foam forming Plants:**

#### **a. Development of an Anti-dermatophytic Poly-herbal Ointment Formulation for Human and Veterinary Applications**

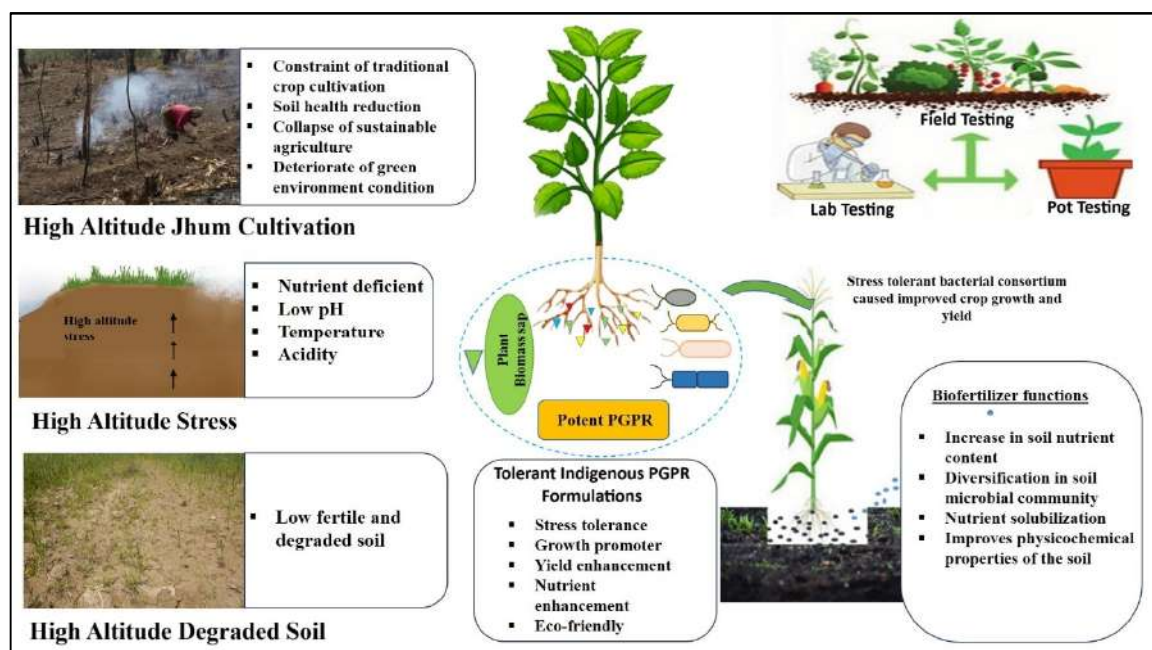
The need for development of anti-fungal agents leads to the quest for exploring alternative new herbal based agents to cope with non-resistant and resistant fungal infections. In the same line, based on traditional knowledge of the herbal medicine practitioner of the state; we have screened nineteen (19) numbers of plant extracts and their fractions (hexane, chloroform, ethyl acetate, methanol, water) against prominent dermatophyte ATCC strains viz. *Trichophyton rubrum*, *Trichophyton interdigitale*. Out of all the plant fractions tested, different fractions of four plants demonstrated considerable activity against the tested dermatophyte in both *in vitro* zone of Inhibition and Minimum inhibitory concentration (MIC) and in *ex vivo* nail plate model of infection. A polyherbal formulation has also been formulated by mixing all four active fractions with standard ointment's excipients. Physico-chemical parameters for quality assurance of the ointment formulation are in progress. Detailed *in vivo* investigations of the formulation are warranted for successful translational development of the ointment.

### **Bioprospecting of Microbial Bioresources of Arunachal Pradesh**

#### **a. Indigenous microbial consortium with plant growth promoting attributes: An alternative strategy to combat the high-altitude stress of crops**

Bioprospecting of indigenous microorganism (IMO) for targeting their beneficial interactions with the rhizospheric microenvironment of crops are extensively explored for plant biofertilization and mitigation of biotic and abiotic constraints. High altitude stresses (cold

temperature, low pH, nutrient scarcity, etc.) limit the beneficial attributes of the biofertilization process and ultimately affect the growth and yield parameters of the crops. Efficient biofertilizer strains of low-altitude origin fail to perform well in high-altitude Agroecosystems, which warrants the development of customized biofertilization approaches for agriculture practices of high-altitude areas. Consortium of Multiple Plant Growth growth-promoting microbes (PGPR), and their beneficial interaction with the plant root facilitate empowerment of the IMO in terms of attainment of tolerance and adaptability against the extreme environments of high altitude. PGPR strains were isolated after extensive screening of soil samples collected from > 35 pockets of high-altitude and low-altitude agricultural fields. Two numbers of multi-strain consortiums of both stress tolerant i.e., *Bacillus subtilis*, *Advenellakashmirensis*, *Pseudomonas aeruginosa* and non-tolerant i.e., *Bacillus aryabhatai*, *Azotobacter chroococcum*, *Frateuriaterrea*, attributes were developed with and their effectiveness was evaluated in high altitude rice and wheat and low altitude rice and potato cultivars. In high altitudes, the tolerant strains demonstrated a significant increase in agronomic growth parameters in all the crops, compared to the control; whereas the non-tolerant strains failed to significantly impact the seed germination, plant growth, yield, chlorophyll content, leaf antioxidant enzyme level, and soil parameters. Investigations on membrane fluidity of the cold-tolerant bacteria confirm the predominance of the polyunsaturated fatty acid biomarkers (C18 and C20 fatty acids), supporting cold adaption of the selected bacteria. We conclude that the inoculation with tolerant and potent microbial consortia in the high-altitude region can regulate nutrient uptake, photosynthetic performance, and stress metabolism to minimize altitude-induced damages in the crops of the high-altitude Himalayan region.



## **B :SCIENCE POPULARIZATION PROGRAMMES / SCHEMES AND ACTIVITIESTAKEN UP DURING THE YEAR**

### **Organised Districts and State level national children’s science congress- 2023 in Arunachal Pradesh**

For organising the district level children’s science Congress activities in respective districts the notification and guidelines in the districts were issued to the District Coordinators of all the districts during the second week of July 2023 in which the District Coordinators were also instructed to form District Organising Committee and District Academic Committee for successful organization of the District level CSC-2023 in their respective district by ensuring maximum participation of children both from Government, Private sector schools of their district with quality projects in the programme. They are also advised to organize one day resource teachers training workshop for the guide teachers for sensitizing them on the selected focal theme. However, the instruction were given to all the district coordinators to complete the district level CSC activities latest by 31<sup>st</sup> October, 2023, thereby state level can be held with full participation from all the districts during November 2023. Hence, the district level activities of Children’s Science Congress-2023 have been organized and completed successfully by 31<sup>st</sup> October 2023 in all 25 districts

Like that of the previous year, the 31<sup>st</sup> state level National Children Science Congress 2023” with the Theme “Understanding Eco-System for Health and Well Being” was conducted during 22<sup>nd</sup> - 23<sup>rd</sup> November 2023 at Arunachal Pradesh



*Participants witness the project presentation of child scientists.*

Science Centre Itanagar. Shri Repo Ronya, IAS, Secretary Department of Science and Technology inaugurate the two days long National Childrens Science



*Secretary, Science & Technology addressing the gathering during NCSC-2023 state level at Itanagar*

Congress- 2023 as a Chief guest and Dr. M.Q Khan, Principal DeraNatung Govt. College as a guest of Honour. Shri Repo Ronya, IAS, Secretary Department of Science and Technology who during his inaugural speech stressed on the need to develop scientific temperament among the school children. It is important to empower students with skill-based training as the development of our economy depends upon them, Ronya said and exhorted the teachers to promote innovative thinking among the students. He also highlighted the rich natural resources of the state and the importance of basic science for sustainable development. Dr. M.Q Khan, the Principal DN Govt. College Itanagar who attended as a Guest of honour in the inaugural session of 31<sup>st</sup> National Children Science Congress 2023 on 22<sup>nd</sup> November 2023 highlighting the genesis and uniqueness of the national Children’s science congress urged students to be part of the solution not the problem. Shri C D Mungyak, Director cum Member Secretary, Arunachal Pradesh State Council for Science & Technology, Department of Science & Technology, Govt. of Arunachal Pradesh during his welcome address spoke NCSC as a platform initiated by Govt. of India and State Govt. is for bringing out the innate skills and talents of students in order to develop scientific temper and outlook.

In 31<sup>st</sup> NCSC state level, 68 No. of project (out of 75) were presented by the child scientist during the two days programme which male= 20 and female participants were 48. No. of schools (Govt. Pvt.& others) was 85 from 25 districts of the state.



**Child scientist presenting their projects during state level, NCSC-2023 at Itanagar**

The valedictory function was held on 23<sup>rd</sup> November 2023 at 1700 Hrs at A.P. Science centre, Itanagar. Dr V K Rawat, Scientist 'E', Head of the Office, Regional Centre, Botanical



**Dr. V.K. Rawat addressing the gathering during valedictory of NCSC state level**

Survey of India (BSI), Itanagar was the Chief Guest. While addressing the valedictory function, Dr Rawat urged the teachers to actively motivate the students to participate in NCSC and other scientific activities as well towards choosing pure science as a carrier and appealed to the child scientists who have come from the districts of Arunachal Pradesh after getting selected

at the district level to be the torch bearers in inculcating the scientific temperament and innovative idea with the help of their projects and propagate scientific awareness in the society.

The projects were evaluated by the panel of Judges, Dr Pallabi Kalita Hui, Assistant Professor Hui, Department of Biotechnology, NIT Jote, Shri M Ukil Singh, Assistant Professor, Department of Agricultural Engineering, NERIST, Nirjuli, Shri Arun Kumar Choudhry, Assistant Professor, Department of Agricultural Engineering, NERIST, Nirjuli.

The participants were awarded with prizes, mementos, and certificates. Participation certificates also awarded to guide and escort teachers.

The details of Top Ten Projects adjudged and selected for participation in the 31<sup>st</sup> National Children's Science Congress (National level) and they will represent Arunachal Pradesh in the 31<sup>st</sup> National Children Science Congress 2023(National event).The following are the listed top ten winners. The national; level events of the National Children's Science congress- 2023 were taken place during 3<sup>rd</sup> to 6<sup>th</sup> January 2025 at Ravindran Bhawan, Bhopal (Madhya Pradesh). The child scientists selected during state level NCSC- 2023 were participated in the programme and represent the state. The team were lead by Dr. Pakngu Lombi, Scientists – D & State Coordinator.



### Organised National Mathematics Day – 2023 Celebration in Arunachal Pradesh

Arunachal Pradesh State Council for Science and Technology organised the celebration of National Mathematics Day-2023 at Dera Natung Govt. College, Itanagar on **22<sup>nd</sup> December 2023**. The programme was organised in collaboration with the Department of Mathematics of Dera Natung Govt. College Itanagar with day long programme on 22<sup>nd</sup> December 2023. The main celebration was held at College conference hall from 10 am onwards to commemorate 136<sup>th</sup> Birth Anniversary of Srinivasa Ramanujan, *a man who knew infinity*.



Chief Guest, addressing the participants

The programme was organized in two session's viz. inaugural session and technical session. Dr. Joram Begi, Former Director Higher & Technical Education and Chief Information Commissioner, Govt. of Arunachal Pradesh was attended the programme and gracing the occasion as a Chief Guest. Dr.Pakngu Lombi, Scientist – C was the guest of honour. While delivering his speech Dr. Begi, exhorted the need of mathematics and mathematical knowledge plays a crucial role in understanding the contents of other school subjects such as science, social studies, and even music and art. Dr. M.Q Khhan, the Principal Dera Natung Govt. College, Itanagar also spoke on the occasion. Various science related activities, (Quiz on S&T, Essay writing, History telling, Slogan writing and Poster making competition, Popular talk, Project making competition and lecture and presentation on the theme was the attractive events that organised to commemorate the celebration of National Mathematics Day. Dr.K.K.Rai, HoD, Mathematics was the Resource Person who have given lecture and presentation during the programme.

National Mathematics Day -2023 was also celebrated on 22<sup>nd</sup> December 2023 in all districts of Arunachal Pradesh. In the district, the Deputy Director of School Education, Department of Education Govt. of Arunachal Pradesh along with District Coordinators of Department of Science and Technology all the districts of Arunachal Pradesh initiate the programme of national Mathematics day.

### Organised Celebration of National Science Day- 2024 in Arunachal Pradesh

National Science Day- 2024 was organized with month long programme by Arunachal Pradesh State Council for Science and Technology as per the guidelines of National Council for Science & Technology Communication (NCSTC), Department of Science & Technology (DST), Government of India, GoI, as a month-long programme In Arunachal Pradesh, the programme was started w.e.f 13<sup>th</sup> February 2024 and concluded on 3<sup>rd</sup> March 2024 to commemorate the discovery of Raman Effect by Sir C.V. Raman. During the celebration diverse range of programs are conducted across the state in school, colleges, universities, R&D institutions, and State S&T Councils to showcase the achievements in the field of Science, Technology and innovation. Various science related activities, competitions and science lecture were arranged as directed by the NCSTC. Activities taken up by the APSCS&T Such as, Popular Science talk, Science and technology exhibition and exposure, Project making competition, S&T Quiz, Startup problem statement exploration, lecture on Mission life., Science with fun, Hands on scientific experiment, Painting competition involving the school and college students of the state. The celebration

witnessed active participation of the students from different schools of different districts of Arunachal Pradesh. Students participated in scientific program through lectures, talk, and exhibitions, have gained awareness in different fields within science and technology. Hands on experiments and project making competitions have provided students with practical hands-on experience, enhancing their understanding of scientific principles and methodology.

### Organised the Celebration of World Earth Day.

World Earth Day was observed on 10<sup>th</sup> April 2023. The main programme was held at A.P.Science centre. During the programme drawing competition (Open) was arranged for the student. Around 25 participants were take part in the competition.. The first-place, second-place and third-place winner was bagged by Dare Katu, TakheMumpi and Tinyo Sarah.



### Organised World Environment Day

World Environment Day was organized on 5<sup>th</sup> June 2023. During the programme a tree plantation around the science centre premises was arranged to symbolizing the commitment to preserving our natural surroundings. Inter-school quiz competition was organized were Vivekananda KendraVidyalaya-Itanagar emerged victorious. Total of 63 Participants were participants from the different schools of capital complex.



D .



### Observed World Yoga Day

World Yoga day was observed on 21<sup>st</sup> June 2023. Officers and officials of A.P. State Council for science and technology and science centre were taken part in the programme. Shri Ganga Jerang, Yog Guru from Sri Sri Ravishankar Art of Living Itanagar attend as a resources person and conducted with emphasis on handling stress at work place. Total 35 participants were take part in the Yog programme initiated by Yog Guru opnj the day.



## **WORKSHOP/ SEMINAR ORGANIZED AND PARTICIPATED IN SCIENTIFIC PROGRAMME DURING THE YEAR.**

### **Organised Master Resource person training on NCSC – 2023 activities**

The National Children's Science Congress 2023 activities in Arunachal Pradesh was initiated from the month of June 2023 under the active coordination of Arunachal Pradesh State Council for Science & Technology (APSCS&T), Itanagar as a coordinating agency along with the involvement of all Deputy Director of School Education, Department of Education Govt. of Arunachal Pradesh of all districts of the state.

Normally the activities of National Children's Science Congress in state are initiated and started from the month of June under the active coordination of Arunachal Pradesh State Council for Science & Technology (APSCS&T), Itanagar along with involvement of Deputy Director of School Education, Department of Education Govt. of Arunachal Pradesh of all districts. The district coordinators of the districts are fully involving to gear up the programme with DDSE of the district for successful organisation of CSC activities in their respective districts. At the utmost the Resource Persons orientation workshop on NCSC activities has been the mandate for carry forward the National Children's Science Congress activities in the district as well as it sensitizing the teachers, and district coordinators for carrying out the National Children's Science Congress (NCSC) activities in their respective district. At the same time the trainers will guide the students in their respective districts for participation in NCSC activities both at district, state as well as in national level event on presentation of their projects. Every year, Arunachal Pradesh State Council for Science and Technology have organized Resource Person training programme as an state level event. In this regards, Arunachal Pradesh State Council for Science & Technology has organized a day long state level orientation workshop on NCSC-2023 activities on 23<sup>rd</sup> August 2023 at Itanagar on the focal theme of 2023 "**Understanding ecosystem for health and well-being**". Total 63 participants including District Academic Coordinators (DAC), District Coordinators (DC) Asst. District Coordinator (ADC), Science teachers and Science Communicators, were invited and attended in the training programme.

### **Organised one day workshop program on Idea, Innovation & Robotics for Girls:**

On May 16<sup>th</sup>, 2023, an event was organized for brightest young girls who had excelled academically in their respective districts in Classes 6, 7, 8, and 9 were brought together for a unique experience. The event aimed to introduce them to Idea, Innovation, and basic Robotics through the medium of Lego EV3. The girls were introduced to the Lego EV3 robotics platform, an educational tool that enables them to build and program robots using intuitive software and adaptable building blocks. Around 62 participants have attend and taken part in the programme being organized by A.P Science centre( APSCS&T)



### **Organised One day workshop program on Idea, Innovation & Robotics for Male**

A.P. Science centre (APSCS&T) organized one day workshop on Idea, Innovation & Robotics for Male on May 17<sup>th</sup> 2023 at A.P.Science Centre Innovation Hub. The program aimed to introduce to Idea, Innovation, and basic Robotics, utilizing the innovative Lego EV3 platform. The 15 participants of Class 6, 7, 8, and 9 standard who had achieved top positions in their respective districts were attended the programme.



### **Organised workshop on “Advancing Agriculture with Bioinformatics and AI: Sustainable Solutions for Bioresource Management”**

Workshop on “Advancing Agriculture with Bioinformatics and AI: Sustainable Solutions for Bioresource Management” was organized at DBT-APSCS&T Centre of Excellence for Bioresources and Sustainable Development, Kimin under the Department of Biotechnology, Government of India, New Delhi funded “Bioinformatics and Computational Biology centre” project during 26<sup>th</sup> to 27<sup>th</sup> November, 2024. The workshop featured a total of 14 Nos. of participants from various universities/institutes and five external experts from CSIR-Central Scientific Instruments Organisation (CSIO), Chandigarh, combining offline lectures and hands-on online training sessions to ensure comprehensive learning.

### **Organised two-Days duration “Nature Study Orientation Workshop cum Camp”**

The DBT-APSCS&T Centre of Excellence for Bioresources and Sustainable Development, Kimin, organized a Two-Days duration “Nature Study Orientation Workshop cum Camp” on 7<sup>th</sup>

and 8 th November, 2024 at its premises. The programme was conducted as part of the Vigyan Prasar, Department of Science & Technology, Government of India sponsorship. The program was aimed at inspiring students from classes 7th to 10th for exploring and developing an interest in understanding science and nature. Four schools from Kimin and surrounding areas participated in the camp, with each school represented by 12 Nos. of students and two teachers. The participating schools included Government Higher Secondary School, Kimin, PM SHRI Kendriya Vidyalaya, Kimin, St. Vincent Pallotti School, Kimin and Vivekananda Kendra Vidyalaya, Sher. The event provided an engaging platform for young learners to connect with nature and science in an interactive and immersive environment.

**Organized a One-Day Virtual Workshop entitled “Nurturing Ideas to Innovation - Lab to Market: Leveraging IP” under the Government of India’s “National Intellectual Property Awareness Mission 2.0 (NIPAM)”**

DBT-APSCS&T Centre of Excellence (CoE) for Bioresources and Sustainable Development, Kimin, Department of Science & Technology, Government of Arunachal Pradesh, organized a One-Day Virtual Workshop entitled “Nurturing Ideas to Innovation - Lab to Market: Leveraging IP” under the Government of India’s “National Intellectual Property Awareness Mission 2.0 (NIPAM)” on 18 th December 2024 in virtual mode. This event was being held in collaboration with the Council of Scientific and Industrial Research - National Chemical Laboratory (CSIR-NCL), Pune and the National Research Development Corporation (NRDC), New Delhi. A total of 238 nos. of participants from various universities and institutes participated in the workshop.

**The DBT-APSCS&T Centre of Excellence for Bioresources & Sustainable Development, Kimin, organized a three-day “Nature Orientation Workshop and Study Camp” in Pasighat from 3<sup>rd</sup> to 5<sup>th</sup> November, 2023**

The DBT-APSCS&T Centre of Excellence for Bioresources & Sustainable Development, Kimin, organized a three-day “Nature Orientation Workshop and Study Camp” in Pasighat from 3<sup>rd</sup> to 5<sup>th</sup> November, 2023. Supported by Vigyan Prasar, Department of Science & Technology, Government of India, the programme focused on engaging students and teachers from East Siang District. Esteemed resource persons included Dr. B.K. Tyagi, Ex-Scientist-F, Vigyan Prasar, Department of Science & Technology, Shri Pankaj Baruah, Science Communicator from Nagaon, Assam, and Shri Mridu Paban Phukan, Freelance Environmentalist and Science Communicator from Dibrugarh, Assam. The camp aimed to build awareness about bio-resources, promote conservation, and encourage the practical application of scientific concepts through hands-on activities. Students from ten schools in the region, accompanied by their science teachers, participated, making the event a meaningful experience in fostering environmental stewardship and scientific curiosity.



districtWorkshop at Pasighat, East Siang

**The DBT-APSCS&T Centre of Excellence for Bioresources and Sustainable Development, Kimin organized a 3-day “Nature Orientation Workshop and Study Camp” from 7<sup>th</sup> to 9<sup>th</sup> November at Nago Putu, Ziro.**

The DBT-APSCS&T Centre of Excellence for Bioresources and Sustainable Development, Kimin organized a 3-day “*Nature Orientation Workshop and Study Camp*” from 7<sup>th</sup> to 9<sup>th</sup> November at Nago Putu, Ziro. Sponsored by Vigyan Prasar, Department of Science & Technology, Government of India, the programme aimed to spark interest in science and nature among students from classes 8, 9 and 10. Set amidst the conifer forests of Ziro Valley, the camp provided a perfect setting for students to explore and learn. The workshop focused on creating awareness about bio-resources, understanding local habitats, promoting conservation of natural resources, and conducting hands-on science experiments using simple kits. Ten schools from Ziro and nearby areas participated, with each school represented by 7–8 students and their science teacher. Schools included Mihin Bagang Govt. Secondary School, Govt. Secondary School (Hong), Govt. Secondary School (Hilltop), and others, making the event a vibrant and engaging learning experience for all.



Workshop at Ziro, Lower Subansiri

DBT-APSCS&T CoE for BRSD, Kimin made a significant impact at the "*World Aroma Ingredients Congress & Expo 2024*" held during 8<sup>th</sup> to 10<sup>th</sup> February, 2024 at Chennai, garnering attention and interest from industry experts. Project Director delivered keynote speech highlighting the contributions of the CoE in the field Aroma crops, Essential Oils, solidifying the position as a leading Centre for Aroma related R&D and Extension activities in NER

## E .ACHIEVEMENT OF THE COUNCIL DURING THE YEAR.

### Establishment of two (2) new Science Centre and Planetarium (Cat-II) at Namsai&Dirang

The Arunachal Pradesh Science centre (APSCS&T) Established two (2) new Science Centre (Category-II) and digital planetarium at Namsai&Dirang under the Scheme for Promotion of Science & Culture (SPoCS), Ministry of Culture, Govt of India. The building design is under process. Shri Pema Khandu, Hon'ble Chief Minister, Arunachal Pradesh laid the Foundation Stone for establishment of Science Centre (Category-II) and digital planetarium at Dirang, West Kameng district on 23<sup>rd</sup> February, 2024. The foundation stone for establishment of Science Centre (Category-II) and digital planetarium at Namsai was laid by Shri Tapir Gao, Hon'ble Member of Parliament (Arunachal East) at Namsai, district Namsai of Arunachal Pradesh on 5<sup>th</sup> March. 2024 respectively.



Shri Pema Khandu, Hon'ble Chief Minister, Arunachal Pradesh laid the Foundation Stone for establishment of Science Centre (Category-II) and digital planetarium at Dirang, West Kameng district on 23<sup>rd</sup> February, 2024.

Earlier the National Council of Science Museums (NCSM), Ministry of Culture, Govt. of India, Kolkata and Arunachal Pradesh State Council for Science & Technology (APSCST), Department of Science and Technology, Govt. of Arunachal Pradesh, have marked a significant milestone for the advancement of Science & Technology in the state with signing of memorandum of Understanding (MOU) for setting up of Category-II Science Centre and Planetarium at Namsai on 18<sup>th</sup> December 2023 with the projected cost of Rs. 26.70 crore and planetarium will be of Rs. 15.60 crore. This initiative is a cog in the larger wheel of the Scheme for Promotion of Culture of Science (SPoCS) steered by the Ministry of Culture, Government of India and is a significant testament to the ongoing investment in the educational and scientific infrastructure of Arunachal Pradesh.



Shri Tapir Gao, Hon'ble Member of Parliament (Arunachal East) laid the foundation stone for establishment of Science Centre (Category-II) at Namsai, district Namsai of Arunachal Pradesh on 5<sup>th</sup> March.

Pradesh. It is aimed at cultivating the culture of science within the state. It aspires to spark interest in scientific knowledge and encourage exploration and curiosity among the residents in general and student community in particular of Eastern Arunachal. The objective of the establishment of science centre is to engage, educate and entertain the visitors through

thematic exhibitions, interactive educational activities and outreach programmes. The centre will also aspire to provide a platform to grassroots innovators of Eastern Arunachal to showcase their innovations.

DBT-APSCS&T CoE for BRSD, Kimin made a significant impact at the "World Aroma Ingredients Congress & Expo 2024" held during 8<sup>th</sup> to 10<sup>th</sup> February, 2024 at Chennai, garnering attention and interest from industry experts. Project Director delivered keynote speech highlighting the contributions of the CoE in the field Aroma crops, Essential Oils, solidifying the position as a leading Centre for Aroma related R&D and Extension activities in

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"World Aroma Ingredients Congress & Expo 2024" held at Chennai

## APSCS&T IN NEWS

A. The National Council of Science Museums (NCSM), Ministry of Culture, Govt. of India, Kolkata, and Arunachal Pradesh State Council for Science & Technology (APSCST), Department of Science and Technology, Govt. of Arunachal Pradesh, signed Memorandum of Understanding (MOU) on December 18<sup>th</sup> 2023, at the Arunachal Pradesh Science Centre, I.G. Park, Itanagar. The primary objective of this momentous occasion is to establish two numbers of Category -II Science Centre and Planetarium in Arunachal Pradesh with one each at Namsai and Dirang respectively. This initiative, which is funded by the Ministry of Culture, Govt. of India and Govt. of Arunachal Pradesh on 90:10 basis signifies a significant leap forward in the promotion of Science & Technology in the state.



B. Memorandum of understanding (MoU) for establishment of Science Centre (Category-II) and digital planetarium at Dirang, West Kameng district was signed in between Arunachal Pradesh State Council for Science



& Technology and National Council of Science Museum, Ministry of Culture, GOI, Kolkata on 18<sup>th</sup> January, 2024 at NCSM Hqt.Kolkata.

C.Shri Pema Khandu, Hon'ble Chief Minister, Arunachal Pradesh laid the Foundation Stone for establishment of Science Centre(Category-II) and digital planetarium at Dirang, West Kameng district on 23<sup>rd</sup> February, 2024.

D.Shri Tapir Gao, Hon'ble Member of Parliament (Arunachal East) laid the foundation stone for establishment of Science Centre (Category-II) at Namsai, district Namsai of Arunachal Pradesh on 5<sup>th</sup> March

E. Memorandum of Understanding (MoU) was signed between DBT-APSCS&T CoE for BRSD, Kimin and Dibrugarh University, Dibrugarh, Assam on 5<sup>th</sup> April,2024 aimed at establishing Academic and Research collaboration and recognition of DBT-APSCS&T CoE for BRSD as an affiliated institute of Dibrugarh University for Ph.D Research And Facilitating Eligible Scientists of the CoE with Co-guideship towards guiding prospective Research Scholars of both the institutes



F. Scientists and Officers from APSCS&T, DBT and APSC along with Secretary, Department of Science and Technology, Govt. of Arunachal Pradesh and Director cum member secretary, APSCS&T participated in the “India International Science Festival (IISF)-2024” held at DBT-THSTI, RCB Campus, Faridabad during 17<sup>th</sup> to 20<sup>th</sup> January, 2024



Participated in the “India International Science Festival (IISF)2024” held at

**7. Audit report for the year 2023-24**