Dr. K. V. RAO SCIENTIFIC SOCIETY

KVRSS

TAMASOMA JYOTHIRGAMAYA

FRIENDSHIP WITH SCIENCE

Annual Report 2021-22

CONTENTS

President's Note

Necessity is the mother of invention - the prime motivator for harnessing human knowledge to develop solutions for everyday problems. During the Covid years the Society completely revamped its IT infrastructure and was able to conduct all its programs through video conferencing with even larger participation than in normal years.

However, science cannot be taught, or its finer points understood without the students working with their own hands, conducting experiments and trying to make their own 'inventions' using basic scientific tools and instruments.

This requirement was also addressed this year as we emerged from the isolation imposed by the epidemic.

The Society commissioned two long cherished projects the 'Mobile Science Lab ' and the Science Innovation Centre' - thanks to generous contributions from Lalitha Varanasi Fund through Orange County Community Foundation and M/s Electronic Arts, Hyderabad respectively. We now have a bus fully equipped to cater to the laboratory requirements of 7th to 10th class students and a 3000 sq.ft. facility at the Society headquarters with audio-visual facilities and basic equipment for conducting hundreds of experiments in Physics, Chemistry, Biology and even Mathematics. The facility will also double up as a Science Hobby Centre allowing students to work on their own projects. All this was achieved thanks to the meticulous planning by Dr Ratna and her staff who had designed each element of the project in great detail and quickly commissioned them when the restrictions were lifted.

I am sure these basic building blocks for popularizing science among children will yield extraordinary results in the years to come.

Mr. Anil Kumar Kutty

Vice President's Note

The threat of Covid has receded and we, as a nation, have every reason to be proud that we successfully managed the pandemic, largely enabled by scientific innovation in development and production of low-cost vaccines and technology to manage the vaccination program.

Jeff Bezos, promoter of Amazon, said, " I predict that the 21st century is going to be the Indian century. The dynamism, the energy… everywhere I go here, I meet people who are working in self-improvement and growth. This country has something special…"

Needless to emphasize, scientific and technological innovations play a key role in putting India into the top league of leading nations. Our efforts to encourage science education, scientific innovation in schools, universities and leading research labs is a small effort to a larger cause.

From the dawn of civilization India made significant contributions to fields of metallurgy, medicine, space science which included astronomy, mathematics. These continue to be relevant and important even today. Perhaps it is time we specifically focus on innovation in specific themes which are relevant in current times in the fields of climate change, new age materials, medicine, non-fossil energy systems, space science, medicine, clean water for human consumption, etc. I am sure the technical committee of experts will find a way and means to conduct the theme-based innovation contests. Initial suggestion from my side: It may be conducted as a Science Hackathon in addition to the call for contributions on specific subject themes. As an extension we can facilitate and assist the winning teams to carry forward their ideas for implementation through the various Innovation Hub initiatives of the government.

Last year we set up the Science Innovation Center and successfully launched the Mobile Science Laboratory and were able to reach out to a large number of students through these new initiatives. This year we plan to have a hybrid approach of offline and online programs in reaching out to the students and young scientists.

Also, we would request eminent scientists and leading research Institutes to mentor the new generation. Today most of them have no access to the good research facilities and data in their institutions. We have excellent research institutes like NRSA, NGRI, RRL, CCMB, IICT, DRDL, ISRO in addition to various innovation centers in industries. The Society has worked with IICT and CCMB on this front and we would be happy to expand our interaction with others.

We wish to reiterate and strongly encourage all award winners and participants, past and present, to reach out to us and stay connected with us. You may suggest ideas and through a collaborative effort we can launch new initiatives.

We rededicate ourselves to the vision of Dr KV Rao and we wish to reiterate our commitment to promote Science in the years to come and promote innovation in schools, leading research labs and universities.

We thank you for your support and look forward to work with you for a better tomorrow.

Mr. K. Ramamurthy

Secretary's Note

Greetings from KVRSS !!!

The year 2021-22 has been a very eventful year for KVRSS. With the Covid becoming endemic, people took it their stride and there was a gradual move towards normalcy. This was also the time for KVRSS expand its activities and be ready for the opening of educational institutions for regular studies.

Though delayed all the annual events in this 22nd year of KVRSS were successfully conducted. These include the Research Awards, SPARK Innovation Awards, SMART Awards and School Talent Awards. Two major projects, aimed at giving hands-on experience of science to school students, were commissioned.

The Science Innovation Centre at the office of KVRSS which was funded by M/s Electronics Arts Company (EA) was inaugurated by the eminent scientist Dr. K. Kasturirangan, former Chairman, Indian Space Research Organisation and Chairman of Draft Committee for National Education Policy 2020 on 31st August 2021. The Centre is not only extensively equipped with lab material required for conducting experiments based on various syllabi of schools, but it also has a wide variety of models to explain various concepts in science and facility for hands-on experimentation. Equipment and facilities will also be provided for carrying out innovative and creative projects by students. At present the Centre is being utilized by various schools for learning the concepts of science and already about 1000 students have benefited through this facility.

A major development this year has been the deployment of a Mobile Science Lab (MSL). Funded by Lalitha Varanasi Fund through The Orange County Community Foundation based at California, a Mobile Science lab for school students was fabricated. The vehicle is equipped with all basic lab facilities and equipment required for science learning for students of classes 7 to 10. MSL was inaugurated on April 6, 2022, by Smt. Sabitha Indra Reddy, the Honorable Minister of Education, Telangana state. The Department of Education, Telangana has also given permission for the vehicle to operate in all the government schools in three districts of Telangana, Hyderabad, Ranga Reddy and Medchal. Currently the bus has been going regularly to various schools, both government and small private schools. As of now the facility has catered to more than 2000 students.

Talks by senior scientists to impart knowledge about the research happenings in various areas of science and generate interest among students to take up science as a career, which were being held regularly prior to the pandemic, were restarted. We hope to take up this activity on a large scale and make them more interactive.

KVRSS had earlier collaborated with CSIR-IICT for science out-reach programmes. In the coming years we are looking for continuing this collaboration and also work with various other institutions to expand the reach and benefit many more students.

To take forward the vision of the Society, a Technical Committee of senior scientists has been formed. With their support and guidance, KVRSS looks forward to enhancing our contribution towards promotion and popularization of science among students in India.

We congratulate all the students who have participated in various events of KVRSS and wish them all the best in their future endeavors. We wish to thank all those who supported us all these years and look forward to your continued support in the coming years.

Dr. K. Ratna

Annual Events

SMART (Science Meets ART) Awards

The event was started in 2021 to commemorate National Science Day which is observed on February 28th every year to mark the discovery of the Raman effect by Indian Physicist Sir C V Raman. The aim of the competition is to visualize science concepts and make the students think out-of-the-box and enhance their creativity. The contest was conducted for school students from 7th to 12th grades across India.

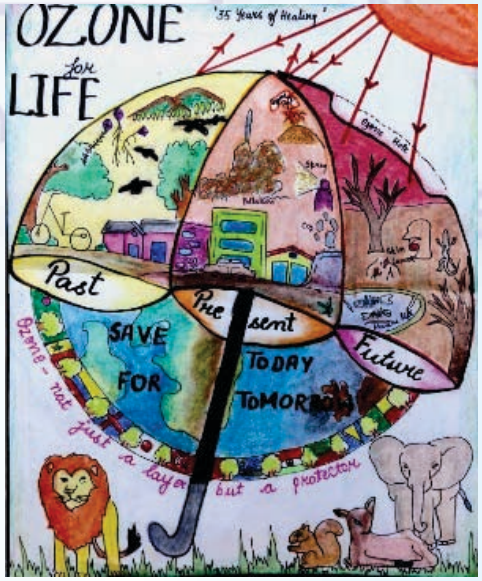
In this 2nd edition of KVRSS SMART Awards, Science Meets Art (SMART), conducted online, the exhibit had to be a poster/collage related to a science-based concept. There was an overwhelming response with more than 760 entries for initial scrutiny from which 73 were screened for final selection. A panel of eminent scientists and science teachers judged the exhibits and selected 5 students as winners (1st, 2nd, 3rd and 2 consolation prizes) and 16 were given a certificate of participation. The following are the selected posters for awards:

Winner

Lithika N - X
D A V Public School,
Velachery, Tamil Nadu
Topic: Travel of Light Rays

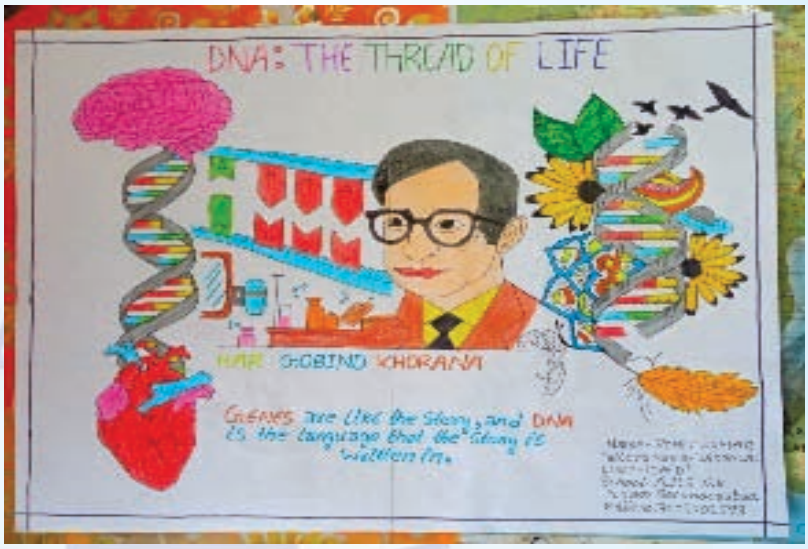
Runner Up I

Riya - X
K B D A V Senior
Secondary Public School,
Chandigarh
Topic: Ozone for Life



Runner Up II

Rohit Kumar - X
Army Public School,
R K Puram,
Secunderabad, Telangana
Topic: DNA The Thread of Life



Consolation Prize

Sudhiksha S - IX
Mahatma Montessori Matriculation
Higher Secondary School,
Madurai, Tamil Nadu
Topic: Art and Science have their Meeting Point in Methods

Consolation Prize

S Ashi Maduja - X
Bharatiya Vidya Bhavan's Sri
Venkateshwara Vidyalaya
Tirupati, Andhra Pradesh
Topic: With Gravity everything seems to Fall in Place

School Talent Awards

The 18th School Talent Awards event was conducted for the students from Andhra Pradesh in December 2021 in coordination with APCOST (Andhra Pradesh Council for Science and Technology). 17 students from different districts of Andhra Pradesh presented their work based on the theme and its sub-themes which are given by the Department of Science & Technology.

The presentations were held online, and it was observed that not only were the projects good, but also the presentation skills of the students have shown a significant improvement. A panel of educationists and scientists evaluated their work and provided guidance to the students on the important points in project, content and presentation to help these students proceed to the final presentations at National Children Science Congress. The following are the four candidates selected for the awards:

D Hari

Class: IX
School : Zilla Parishad High School, Billalavalsa, Vizianagaram District, Andhra Pradesh
Project Title : Model Agriculture Alarm
Guide Teacher : Ms. Ch Varalakshmi
The Work : Developed a farm alarm with low cost for simple and efficient protection of crops from animals without causing harm to them

Meghana & Varsha

Class: VI
School : Zilla Parishad High School, Gangavaram, Anantapur District, Andhra Pradesh
Project Title : Grain Coated Maize Cups
Guide Teacher : Ms. U Shailaja
The Work : Developed drinking cups using banana and Maize waste materials which have anti-viral, antibacterial, antifungal properties

P Devi Yasasree

Class: X
School : AANM & VVRSR (EM) High School, Gudlavalleru, Krishna District, Andhra Pradesh
Project Title : Use of Cockle Shell as Partial Coarse and Fine Aggregate Replacement in Concrete
Guide Teacher : Mr. G M Satya Babu
The Work : Worked on replacement of partial coarse and fine aggregates in concrete mixture with cockle shell waste available in fisheries industry.

T Abhishek

Class: X
School : MJPAPBC WR S, Adavivaram, Visakhapatnam District, Andhra Pradesh
Project Title : Eco-Friendly Multi-Purpose Farming Vehicle
Guide Teacher : Mr. M Sathibabu
The Work : Constructed a Vehicle that can be used in multiple ways in farming such as ploughing, sowing seeds, irrigation, cutting of weeds by using solar energy

SPARK Innovation Awards

The Annual SPARK Innovation Awards contest aims to encourage innovation among school children through an inter-school competition wherein the awards are given to the children who come up with the most original exhibit/concepts in various fields of science. The competition is held each year for school students in the classes of 7th to 12th across all India in basic sciences (Bhoutikam, Jeevanam, Rasayanam & Ganitam).

There was an overwhelming response this year with 225 projects from 88 various schools for initial scrutiny. Out of them 42 projects were selected for the final presentation. The event was conducted online on 23rd July 2022. A panel of eminent scientists and science teachers judged the projects and a total of 12 projects were selected for the awards. The following are the selected projects:

Ganitam - Maths

Winner

N Pavan Kumar - X, **E Allwin Thomas** - X & **Prachi Singh** - X

School : Army Public School, Lucknow, Uttar Pradesh
Guide Teacher : Mr. Shubham Jaiswal
Project Title : Gamification of Mathematical Concepts
The Work : The project involves building a math-oriented game using C# programming language to learn the basic operations of math easily

Runner Up I

S Hari Srinivasan - IX & **Neel Umesh Mantri** - IX

School : D.A.V. Boys Senior Secondary School, Gopalapuram, Chennai
Guide Teacher : Mrs. Sucharitha
Project Title : NUMERICO
The Work : Developed a multiplayer board game to test mathematical concept of integers

Consolation

Anushka Kutty - X & **Rida Azam** - X

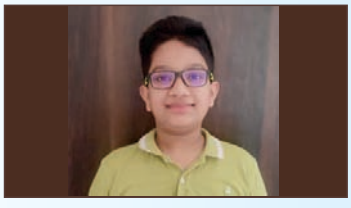
School : Summer Fields School, Greater Kailash, New Delhi
Guide Teacher : Mr. Chandresh Thakur
Project Title : What's that Painting
The Work : Developed a mobile game to practice math-oriented questions using enticing riddles and rewards to keep students involved and increase their logical thinking and mathematical reasoning

Bhoutikam - Physics

Winner

Aarth Singal - IX

School : Bal Bharati Public School, Pitampura, New Delhi
Guide Teacher : Mrs. Amandeep Kaur
Project Title : Comforting Sumo
The Work : Constructed a toy which can take care of some activities for elderly persons and help in overcoming loneliness



Runner Up I

Kushagra Patel - VIII , **Aarush Agarwal** - VIII &
Abhinav Singh - VIII

School : Delhi Public School Kalyanpur, Kanpur, Bihar
Guide Teacher : Mrs. Vimal Sharma
Project Title : AI Vacuum Cleaner
The Work : Constructed a low cost artificial intelligence based vacuum cleaner which can climb small heights , convenient to use and need less time to clean

Consolation Prize

Anunay Narayan Trivedi - IX, **Taapas Singh** - IX &
Bhavik Mishra - IX

School : City Montessori School, Rajajipuram, Lucknow
Guide Teacher : Mrs. Afroz Ahamed
Project Title : Smart Bin
The Work : The work involves developing a smart dust bin, for use by old and/or disabled people, which opens automatically when a person comes near to it and also restricts overflow of garbage

Jeevanam - Biology

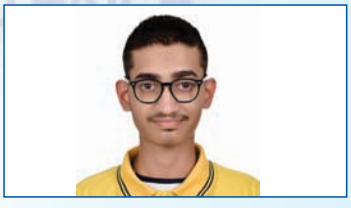
Winner

Parth Nijhawan - XII & **Sukhleen Kaur** - X

School : Salwan Public School, Rajendra Nagar, New Delhi
Guide Teacher : Ms. Bhavna Kaushik
Project Title : Household Wastewater Treatment using Natural Coagulants
The Work : Worked on developing an eco friendly, low-cost wastewater treatment system using ***Moringa oleifera*** seeds which exhibited better antimicrobial activity

Runner Up I

Kavyea Mittal - XII



School : Ridge Valley School, Gurugram, Haryana
Guide Teacher : Ms. Neelu Singh
Project Title : Hindrance
The Work : Developed a mobile game with good graphic design, to develop Eye-Hand coordination, problem solving and task organization for handicapped and special need students

Consolation

Soha Aijaz - X & **Lalnunkimi Hnamte** - X

School : Tagore International School, Vasant Vihar, New Delhi

Guide Teacher : Dr. Remy Kaul

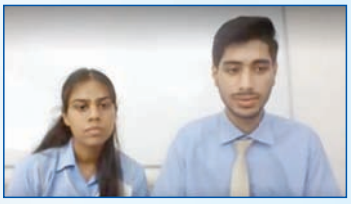
Project Title : Grass Paper as an Alternative for Plastic Packaging

The Work : Prepared bio-degradable grass paper using grass which can be used as an alternative for plastic in packaging

Rasayanam - Chemistry

Winner

Lavanya Sachdeva - XII, **Shlok Advani** - XII



School : Salwan Public School, Rajendra Nagar, New Delhi

Guide Teacher : Dr. Shilpa Raghuvanshi Chauhan

Project Title : Mosquitocidal Cum Larvaecidal Cakes From Waste Cigarette Butts

The Work : Developed formulation using Nicotine rich cigarette butts for producing CO_2 by adding yeast, sugar and binding material under stagnant water for attracting and killing both mosquitoes and larvae

Runner Up I

Manthan Gadhe - X, **Sanchit Jaiswal** - X & **Kapish Jaiswal** - X

School : Bhavans B P Vidya Mandir, Nagpur, Maharashtra

Guide Teacher : Mr. Ravindra Tadas

Project Title : Particle Board from Crop Waste

The Work : Developed low-cost particle board using waste agricultural materials mainly rice husk

Consolation

Falgun Sukhija - XII, **Syed Shan Abbas Ali Naqvi** - XII & **Tanmay Parikh** - XII

School : Centre Point School, Nagpur, Maharashtra

Guide Teacher : Mrs. Sonia Vhora

Project Title : Solar Desalination of Brackish Water

The Work : Developed a lab scale method for desalinating brackish water using light-absorbing Graphene/Fe_3O_4 nanoparticles which are effective at transforming light into heat

Annual Research Awards

The Research awards are given to young research scholars under thirty years of age who are actively involved in research in basic sciences which include Physics, Chemistry, Biology and Mathematics. The award is given for their exemplary work done as a part of their PhD research.

With more than hundred candidates applying from various institutions spanning across India in the four subjects of science, a panel of eminent scientists/professors in each field shortlisted applicants for the final presentation. The students for awards were selected based on the recommendations of another panel of judges after careful evaluation of research papers and the presentations by the candidates in each category.

The research students who have received KVRSS awards in earlier years are now in senior research / teaching positions. These scientists are an important resource pool and are often invited to be part of the judges' panel. The online platform has helped us to interact with our awardees from across India. We would like to express our sincere thanks to all the scientists who have been on our panel of judges over the years and helped us in the selection of worthy students for awards.

The list of selected candidates for the research awards for the year 2021-22:

Ganitam - Maths

Winner

Pritam Ganguly

Institute : Indian Institute of Science, Bengaluru, Karnataka

Project Title : "An Uncertainty Principle Regarding the best Possible Decay of the Spectral Projections Associated with Hermite, Special Hermite and Laplace-Beltrami Operators on Rank one Compact Symmetric Spaces"

Supervisor : Prof. Sundaram Thangavelu

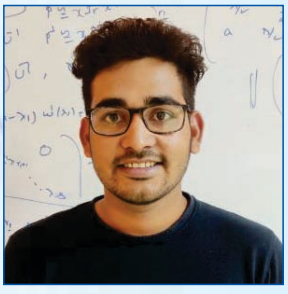
Runner Up - I

Poornendu Kumar

Institute : Indian Institute of Science, Bengaluru, Karnataka

Project Title : "Distinguished Varieties with Respect to the Bidisk and the Symmetrized Bidisk"

Supervisor : Prof. Tirthankar Bhattacharyya



Runner Up - II

Akshay Kumar

Institute : University of Hyderabad, Hyderabad, Telangana

Project Title : "Riemann Problem for Rate-Type Materials with Nonconstant Initial Conditions"

Supervisor : Prof. R Radha

Bhoutikam - Physics

Winner

Manali Nandy

Institute : Indira Gandhi Centre for Atomic Research, Kalpakkam, Tamil Nadu

Project Title : "Inter-Droplet Force Measurement between Gamma Alumina Stabilized Pickering Nano Emulsion Droplets: Role of Electrostatic and Electric Dipolar Interactions"

Supervisor : Dr. John Philip

Runner Up I

Y R Kartik

Institute : Manipal Academy of Higher Education, Manipal, Karnataka

Project Title : "Topological Quantum Phase Transitions and Criticality in Longer-Range Kitaev Chain"

Supervisor : Prof. Sujit Sarkar

Runner Up II

Praveen Kumar

Institute : Indian Institute of Technology, Patna, Bihar

Project Title : "Structured Light Beams and its use in Optical Encryption"

Supervisor : Naveen K Nishchal

Jeevanam - Biology

Winner

Srividya Gorantla

Institute : Birla Institute of Technology and Science, Pilani, Pilani Campus, Rajasthan

Project Title : "Exploring the Affluent Potential of Glyceryl Mono Oleate – Myristol Liquid Crystal Nanoparticles Mediated Localized Topical Delivery of Tofacitinib: Study of Systematic QbD, Skin Deposition and Dermal Pharmacokinetics Assessment"

Supervisor : Dr. Gautam Singhvi

Runner Up I

Pallavi Deolal

Institute : University of Hyderabad, Hyderabad, Telangana

Project Title : "A Novel ER Protein-Uip4, Regulates Nuclear Function and Nuclear Pore Complex Quality in S. Cerevisiae"

Supervisor : Prof Krishnaveni Mishra

Runner Up II
Abdul Wasim

Institute : Tata Institute of Fundamental Research, Hyderabad, Telangana

Project Title : "A Hi–C Data-Integrated Model Elucidates E. coli Chromosome's Multiscale Organization at Various Replication Stages"

Supervisor : Prof Jagannath Mondal

Rasayanam - Chemistry

Winner
Diksha Rai

Institute : Indian Institute of Technology, Bombay, Maharashtra

Project Title : "Total Syntheses of Conjugation-Ready Trisaccharide Repeating Units of Pseudomonas Aeruginosa O_{11} and Staphylococcus aureus Type 5 Capsular Polysaccharide for Vaccine Development"

Supervisor : Prof. Suvarn S. Kulkarni

Runner Up I
Prachi Kour

Institute : CSIR – National Chemical Laboratory, Pune, Maharashtra

Project Title : "$CsPbBr_3/Cs_4PbBr_6$ Perovskite@COF Nano-composites for Visible-Light-driven Photocatalytic Applications in Water"

Supervisor : Dr. Shatabdi Porel Mukherjee

Runner Up II
T. Leelasree

Institute : Birla Institute of Technology & Science (BITS), Pilani, Hyderabad, Telangana

Project Title : "MOF based Flexible, Low-cost Chemiresistive Device as a Respiration Sensor for Sleep Apnea Diagnosis"

Supervisor : Dr. Himanshu Aggarwal

KVRSS Mobile Science Lab (KVRSS MSL)

Funded by Lalitha Varanasi Fund through OCCF, USA, Mobile Science Lab is a complete science laboratory on wheels for schools in and around Hyderabad. It brings a Science Lab right into the classroom and offers experiential learning of science subjects, Physics, Chemistry, Biology and Mathematics.

More than 300 experiments based on both the school Curriculum and scientific concepts can be carried out by the students. The hands-on experience fosters higher order thinking skills in children inculcating in them habits of curiosity to pose questions, seek answers and think scientifically.

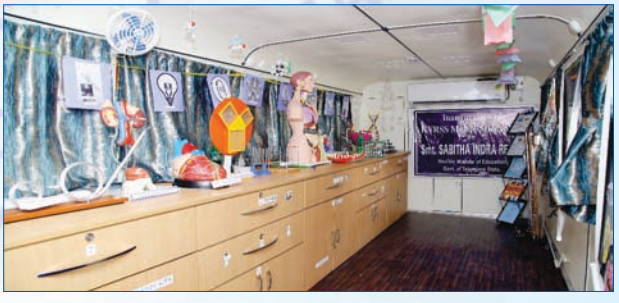
This project aims to promote science education in twin cities of Hyderabad and Secunderabad in the state of Telangana and adjoining areas for children at school level by addressing critical issues of access to quality science labs and science teaching in places where there is a lack of adequate facilities and an opportunity to learn science with activities.

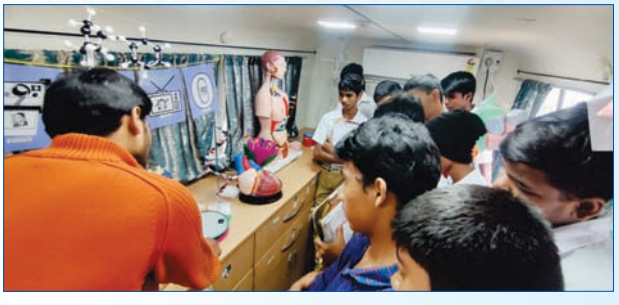
The Mobile Science Laboratory primarily serves Government and private schools but is also capable to deliver programs to larger groups like exhibitions and technical sessions.

The fabricated vehicle was inaugurated on 6th April 2022, by Mrs. Sabitha Indra Reddy, Honorable Education Minister, Government of Telangana. KVRSS has received approval from the Department of School Education, Telangana to provide Mobile Science Lab facilities to schools in 3 districts of Telangana, viz., Hyderabad, Ranga Reddy and Medchal.

The response to the initiative has been extremely good and till date MSL has impacted more than 2000 students both from government schools and small private schools.

MSL - Photos






Welcome You
Hands on Learning
Friendship with Science


KVRSS Mobile Sc
Teaching


KVRSS Mobile S


Mobile Science La


KVRSS Mobile Science Lab

EA KVRSS Science Innovation Centre

Science Innovation Centre is an unique initiative in the field of science for hands-on-activities of different models and equipment to facilitate easy learning of science concepts by school students. The Innovation Centre aims to increase the curiosity levels of students by not only performing experiments to check and verify various statements and theories given in books, but also gives opportunity to children in giving shape to their creative ideas.

The Concepts of Science are taught through interactive demonstrations and experiments and hands-on-learning. The audio-visual facility is designed for showing carefully curated videos, explaining the underlying theories as well as practical uses of the concepts.

The Innovation center has been developed in the KVRSS office premises. The focus is on gaining knowledge through activity-based and hands-on learning leading to innovative/qualitative thinking among students.

The Innovation center can also cater to schools lacking the required lab infrastructure in supporting them to conduct experiments as per the syllabi and help children in senior classes for their science projects.

Inaugurated by Dr. K. Kasturirangan on 31st August 2021, several demonstrations in diverse topics of science and math have already been held on the premises for school students.

To date the facilities at the Innovation Centre have been utilised by about 1000 students from different government schools and private schools.


Dr. K.V. RAO SCIENTIFIC SOCIETY


KVRSS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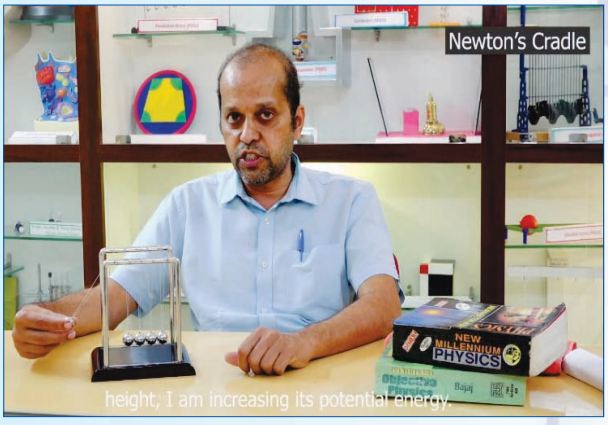
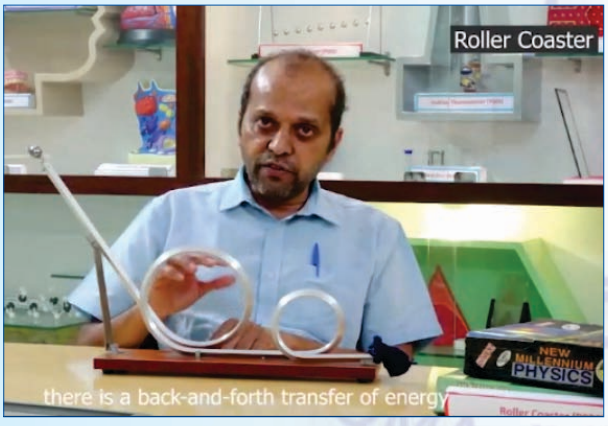
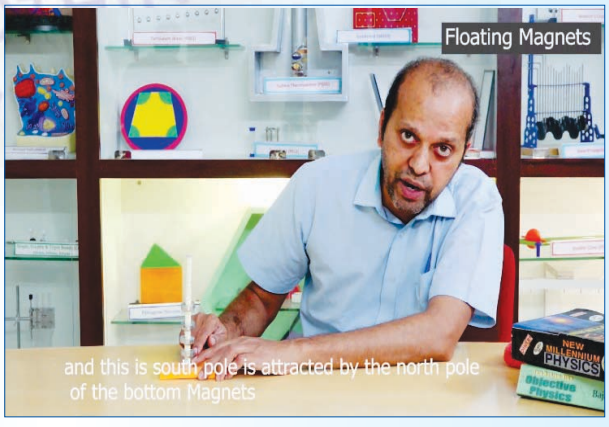
Concept Videos

KVRSS, in its quest towards promoting & popularizing basic sciences, has diversified from just recognising talent to mentoring. As one of the steps towards mentoring, KVRSS has started to help children clear their concepts on different topics in science. Towards this, both the Innovation Centre as well as Mobile Science Lab have been equipped with several scientific models and equipment through which the concepts of science can be explained. With the support from scientists / professors of reputed institutions, the demonstrations and concepts behind the models are being recorded as short videos in simple & easy language for children of 7th to 10th grades to understand. Some of the videos have been recorded and uploaded on our website. These videos help to strengthen the concepts at the base/foundation level and help a child to work further on the concept.





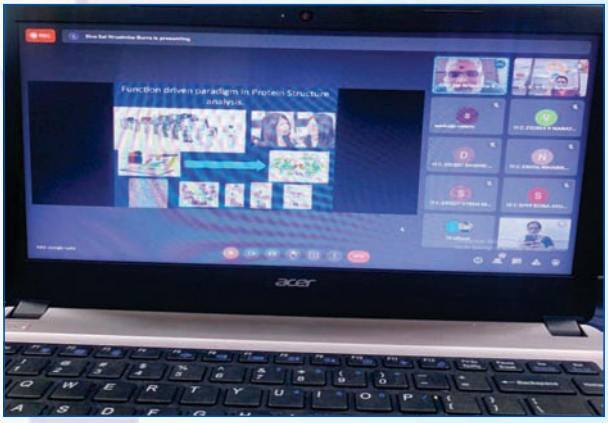


Scientific Talks

During the 22 year journey, KVRSS had the fortune to interact with several eminent scientists/professors from reputed institutions and has built an exceptionally good rapport with them. With this vast resource of knowledge, KVRSS had taken one more step towards creating interest in science amongst school children by arranging talks on different topics of science to students from 8th to 12th grades. This initiative which received a setback during the pandemic was restarted recently. Pre-Covid, these talks were arranged in schools, however, now talks are being arranged online. The online platform has given a vast scope to extend this activity to schools in far flung areas and use our resource pool optimally. Our Society plans to take up this activity on a large scale.

The list of talks arranged thus far:

1. "Biotechnology" by Prof B Prasad, KLU University, Guntur, Andhra Pradesh
2. "Open Problems in Cosmology" by Prof Rahul Nigam, BITS Pilani, Hyderabad Campus, Telangana



Annual Memorial Oration

KVRSS invites an eminent scientist each year to deliver the Dr K V Rao Memorial Oration at the Annual Awards function of the Society. The talk is arranged to motivate young children and all the other awardees in their quest for excellence. This year Dr Prakash Chauhan, Director, National Remote Sensing Centre (NRSC), Hyderabad will present the 22nd Annual Memorial Oration. The topic of the Oration is "Satellites for Society".

Orator's Profile

Dr Prakash Chauhan (born on May 15, 1969) obtained his postgraduate degree in Applied Geophysics from University of Roorkee (now IIT, Roorkee) and Ph. D. in Physics from Gujarat University, Ahmedabad.

Dr Chauhan joined Indian Space Research Organisation in 1991 at Space Applications Centre, Ahmedabad as scientist and worked for the applications of Space Technology. He served as Group Director at Space Applications Centre, Ahmedabad for Biological and Planetary Sciences Group from 2014 to 2018. Prior to joining National Remote Sensing Centre (NRSC), Hyderabad, he was the Director at the Indian Institute of Remote Sensing (IIRS), Dehradun since April 2018.

His major achievements are in the area of Earth Observation applications including development of algorithms for ocean colour parameter retrieval, marine living resource assessment, aerosol remote sensing for space-based air quality monitoring, river and reservoir water level estimation and coastal zone management. His current work is on use of satellite remote sensing data for understanding the climate response of Himalayan Cryosphere and Air Quality assessment from Space.

Dr. Chauhan has done lead work for Indian Planetary Missions such as Chandrayaan-2 and Chandrayaan-1. He was Principal Investigator for Infrared Imaging spectrometer (IIRS) instrument on-board Chandrayaan-2 mission, the data from which has resulted in unambiguous detection of H2O and OH on the surface of the Moon.

At Indian Institute of Remote Sensing (IIRS), Dr Chauhan spearheaded activities for research and capacity building in the field of applications of Remote Sensing and Geoinformatics technology for societal applications in India. He actively provides guidance and support for international organisations like CSSTEAP-UN in conducting space technology courses for Earth System Science.

As Director of UN affiliated Centre for Space Science and Technology Education in Asia and the Pacific (CSSTEAP), he has significantly contributed towards capacity building for Space Applications in Asia and the Pacific region along with UNOOSA.

He is currently serving as Chair of the Working Group of Whole at STSC of UNCOPUS. He is executive member of International Ocean Colour Co-ordination Group (IOCCG) and representing ISRO. He had also been member of prestigious NASA-ISRO Planetary Science working group.

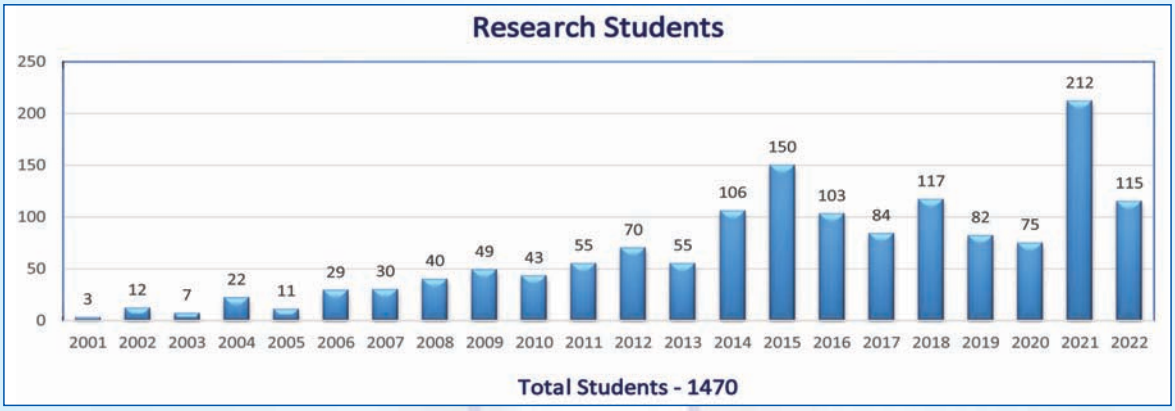
He has published more than 150 peer review papers in national and international journals and he is currently fellow of the National Academy of Science (NASI), Allahabad, Indian Society of Remote Sensing and Indian Social Science Academy.

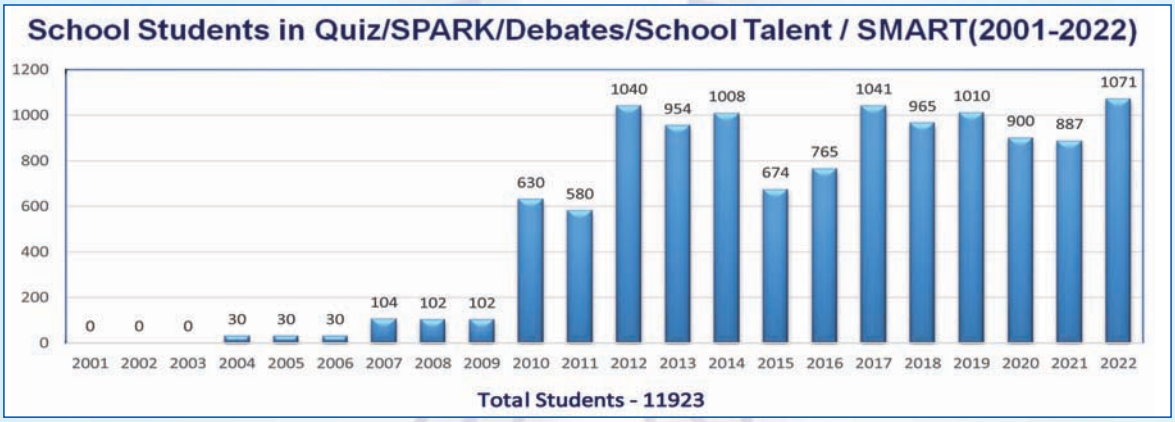
Dr. Chauhan has been a recipient of many awards which include the prestigious Prof. P.R. Pisharoty memorial award (2004) by Indian Society of Remote Sensing, Hari Om Ashram Prerit Dr.Vikarm Sarabhai Research Award (2009) by Physical Research Laboratory (PRL), Ahmedabad, ISRO merit award (2010) by Indian Space Research Organistaion and Satish Dhawan award (2016) by ISRS, Dehradun.

KVRSS Impact

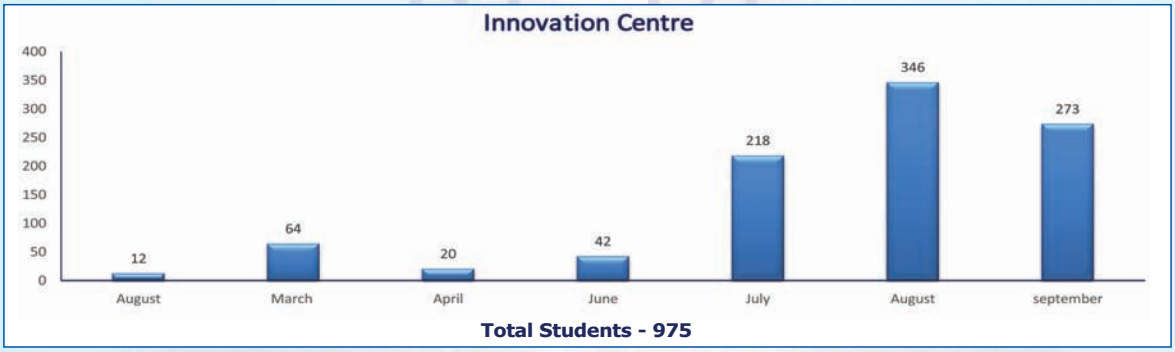
KVRSS started the journey in 2001 when only three research students participated in the Research awards event. Over the years, the number of events and the participation of students increased manifold. The data below illustrates the journey of KVRSS and its impact on the student community of India.

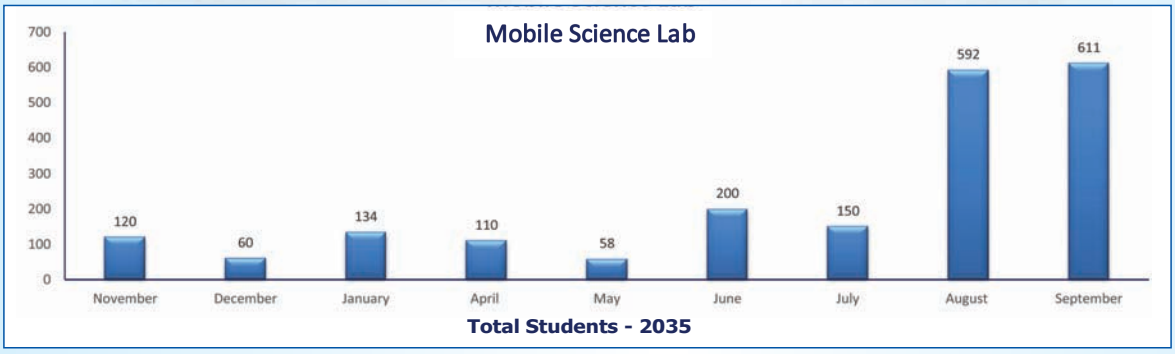
I. Total number of students who participated in Annual Events





II. Number of students who availed the Mobile Science Lab and Innovation Centre facilities





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