



# ANNUAL REPORT 2024-25

**DR. K V RAO SCIENTIFIC SOCIETY**

FRIENDSHIP WITH SCIENCE



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# KVRSS AT A GLANCE



# 1.1. About KVRSS

Founded in 2001, KVRSS (Dr. K V Rao Scientific Society) was inspired by the vision of Dr. K V Rao to foster a love for science and innovation. The society has dedicated itself to promoting STEM education and research across India. Our mission is to popularize science among students, from schools to research institutions, cultivating the next generation of scientific minds.

## Our Journey

Starting with research awards in Chemistry, expanded to cover all core sciences (Chemistry, Physics, Biology, and Mathematics) and extended reach nationwide. With over 75,000 students impacted through school and university level competitions, innovation centers, and mobile science labs, KVRSS creates platforms for young students and researchers to explore their potential in STEM.

## Our Initiatives

- **Research Awards:** A pan India initiative where more than 230 young scientists have been recognized, many of them are now in prestigious institutions.
- **School Programs:** From regional to national, inspired thousands through various competitive science activities, most of the events being pan India.
- **Science Innovation Centre:** Offers hands-on STEM learning and mentoring to school students
- **Mobile Science Lab:** Reaches students across remote areas in districts of Telangana.
- **Teacher Training:** Empowers educators with hands-on STEM teaching techniques, exponentially increasing our reach.
- **Science Safari Camps:** Make learning science a fun experience through games and activities

## Recognition and Support

KVRSS's efforts have been backed by individuals, corporations like EA-Hyderabad, OCCF, TATAs, Amazon, and Microsoft, and collaborations with leading educational institutions. Eminent scientists feature in our annual Memorial Orations, and our awardees, return to mentor the next generation.

## Looking Forward

Our vision includes expanding outreach, fostering more collaborations, developing new Science Centres, and establishing mentorship programs for students.

At KVRSS, we believe in creating a lifelong “Friendship with Science,” and we’re dedicated to ensuring every student has the opportunity to shine in the world of STEM.



# 1.2. Milestones of KVRSS

## 2001 - 2005 Evolution

- Founded KVRSS in 2001
- KVRSS started with one Research Award in Chemistry, expanded to awards in Biology
- Dr. K.V. Rao Oration by an eminent scientist
- School Talent Awards from 2004 to promote government school students of AP

## 2005 - 2010 Growth and Credibility

- Science Quiz competition Started in Hyderabad
- Physics and Math started in Research Awards
- Science Quiz extended to various cities in AP

## 2011 - 2015 Collaboration and Scalability

- SPARK Innovation Awards started
- Extended Reach from AP to South India for Research Awards
- Conducted events in Collaboration with other Scientific Organizations.
- Postal Cover on Dr. K V Rao Released

## 2015 - 2020 Impact

- Extended reach of SPARK Innovation Awards to South India level
- Received support from Industry and funding agencies

## 2021 - 2025 Hands-on Concept STEM Teaching

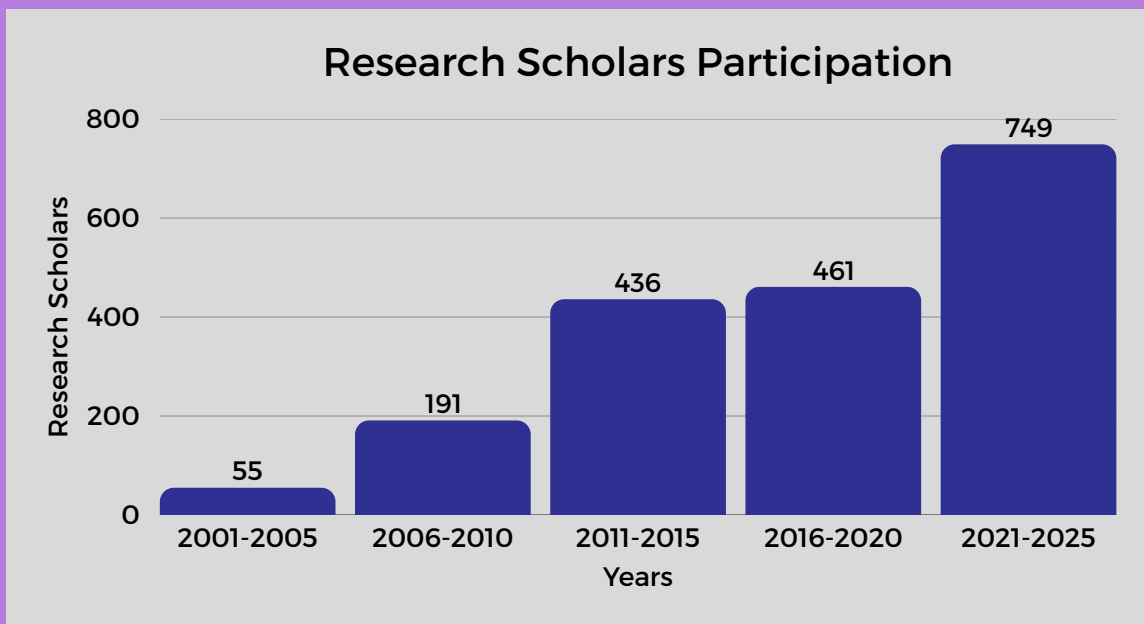
- Extended reach of various competitions to All India level
- Developed Science Innovation Centre & Mobile Science Lab for school students for concepts hands-on learning
- SMART (Science Meets ART) Awards, Science Safari camps introduced for making science learning a fun experience.
- Teach the Teacher, training workshops for school teachers started

## 2026 & Beyond The Future ...

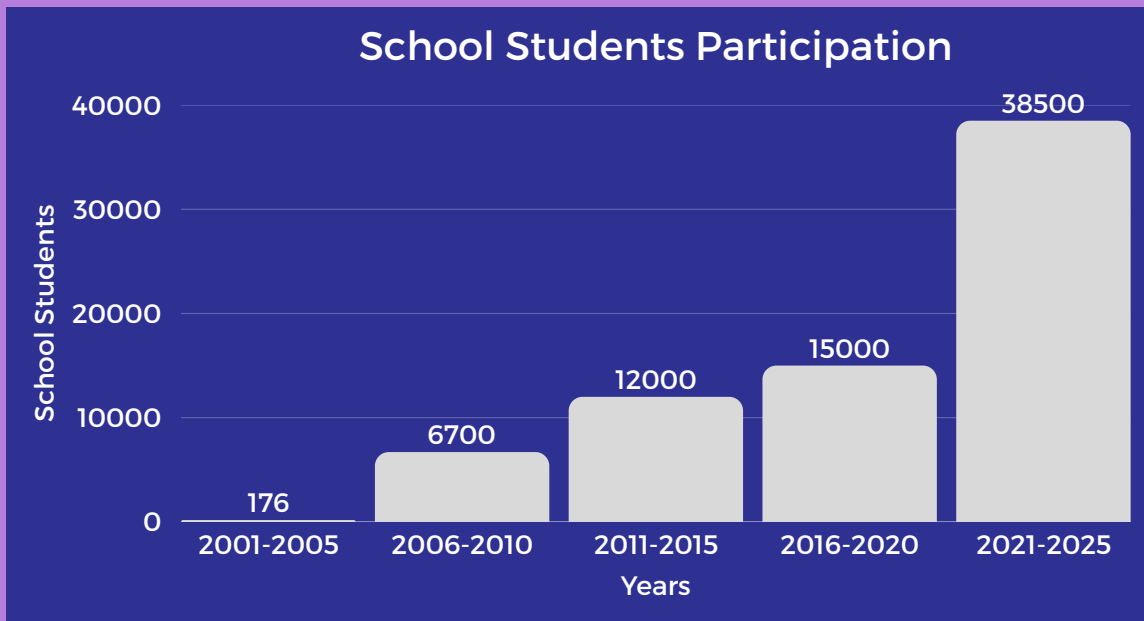
- To encourage local talent, initiate exclusive programs for students of Telangana
- Create multiple Innovation Centres and Mobile labs
- Develop an interactive Science Hub
- Work towards providing scientific solutions to Societal issues

# 1.3. Participation Growth from 2001 to 2025

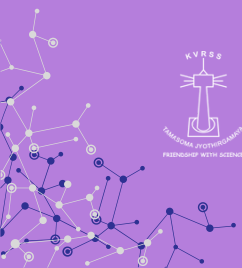
From modest beginnings in 2001, KVRSS has steadily expanded its footprint across India. Over the years, thousands of school students and research scholars have participated in our programs, competitions, and initiatives, reflecting the Society's growing impact in nurturing scientific talent.



Participation from research scholars has grown from just 55 in the first five years to over 736 in 2021-2025

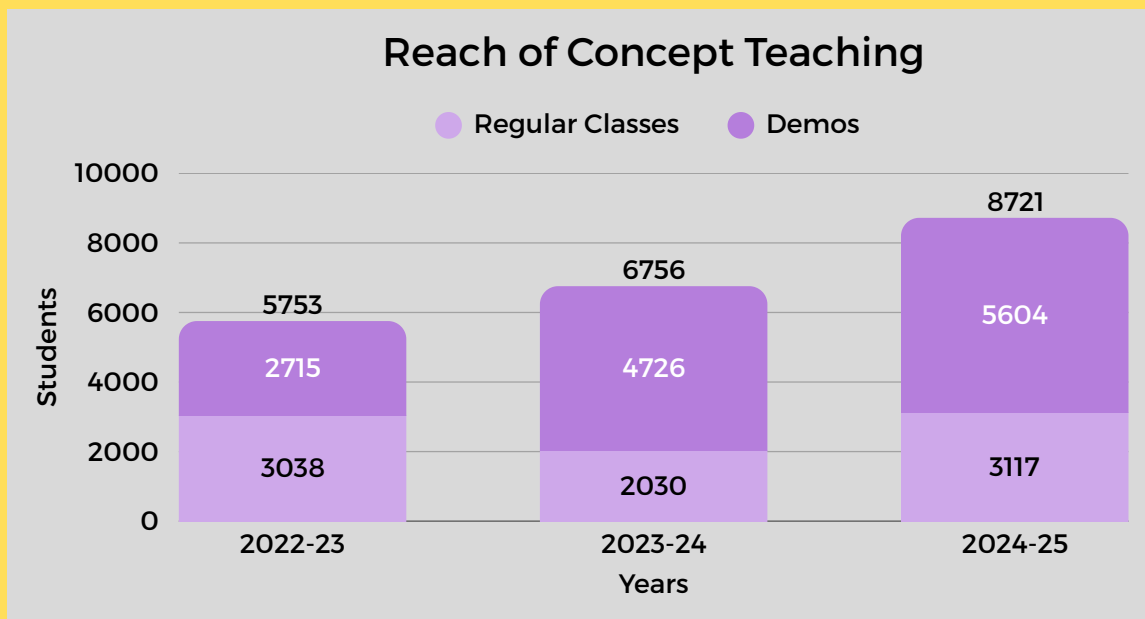


Student participation has scaled from ~170 in 2001-2005 to over 44,000 in 2021-2025, driven by the Innovation Centre, Mobile Lab, National-Level Competitions and Other Events



# 1.4. Impact of Concept Teaching

Since 2021, KVRSS has pioneered hands-on STEM education through its Innovation Centre and Mobile Science Lab. These initiatives bring science concepts to life, making learning interactive and accessible for schools across Hyderabad.



More than 21,000 students have been engaged through regular classes and demo sessions since 2022, through the Innovation Centre and Mobile Science Lab

## Concept Teaching Impact at a Glance

### ✓ 500+ Sessions Conducted

Hands-on STEM sessions delivered through the Innovation Centre & Mobile Science Lab.

### ✓ 40+ STEM Concepts Covered

From nutrition and polymers to probability and electronics, making science practical and fun.

### ✓ 25+ Schools Reached

Partnering with government and private schools across Hyderabad.

### ✓ 21,000+ Students Impacted

Building curiosity and confidence in science learning through real-world demonstrations.



# LEADERSHIP SPEAKS



DR. K V RAO SCIENTIFIC SOCIETY

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## 2.1. President's Message



### Mr. Anil Kumar Kutty

*President, KVRSS*

Mr. Anil Kumar Kutty, an officer of 1978 batch of the IAS, has more than 30 years of experience in various fields including banking, the Indian Administrative Service and in the power sector. A Masters in Physics and Parvin Fellow at Princeton University, Mr Kutty has been a source of strength and support to KVRSS since 2013. As President of KVRSS from 2015 he has been guiding the various initiatives of KVRSS.


It is with a great deal of satisfaction and a sense of accomplishment that we report the successful completion of an activity-filled year - marking the 25 years of dedicated service of Dr. K V Rao Scientific Society to the cause of popularising science among the youth.

Beginning on a very modest scale in Hyderabad, our programmes have steadily extended their scope and coverage - from research scholars to school children and our footprint now encompasses most major states of India.

During this journey, we have interacted with thousands of school children from various backgrounds, including underprivileged groups, with the aim of encouraging interest in science and supporting curiosity and discovery. We have developed a wide range of programmes designed to make science accessible and appealing, stimulating young minds to explore and learn beyond the classroom. The initiatives comprise Science Quiz competitions, Scientific Talks accompanied by practical demonstrations, and Science Fairs designed to inspire innovation, such as the SPARK Innovation Awards, which promote originality and creative thinking through student-conceived projects.

We are especially encouraged by the positive feedback from our recent initiatives - the establishment of a Science Innovation Centre where children can engage with functional models to enhance their understanding of scientific principles, opportunities to experiment with various gadgets for project development, and the provision of a Mobile Science Lab to support schools that lack these basic resources.





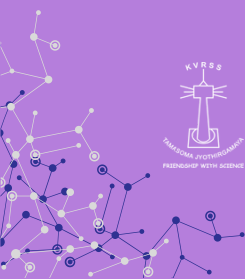
In addition to engaging with school students, our flagship program dedicated to recognizing exemplary work by research scholars has inspired emerging scientists, encouraging them to pursue excellence and advance their expertise within their respective disciplines. It is a matter of great pride to us that many of our awardees today hold key positions in scientific establishments and universities around the globe.

This dual focus on both early education and advanced research exemplifies our commitment to fostering a robust scientific culture and supporting the country's long-term development.

We recognise the invaluable guidance provided by distinguished scientists and professionals who have participated and guided our activities. We express our sincere appreciation to the judges of the Research Scientists' Awards, whose diligent review of numerous research papers and unwavering commitment to impartial evaluation has bestowed the reputation and prestige that our awards enjoy among the scientific community.

We also extend our sincere gratitude to the organisations and individuals who have contributed both financially and in kind, as well as to the management of schools and institutions, teachers, and parents for their mentorship and support. All this has been possible only due to the tireless efforts of the dedicated staff of KVRSS, under the leadership of Dr. Ratna, for their zeal in organising these events.

Lastly, and most importantly, we commend the young participants themselves, upon whose shoulders rests the responsibility of leading India into 'Amrit Kaal'—the nation's aspiration to achieve developed country status by 2047.



## 2.2. Vice President's Message



### Mr. Ramamurthy Kolluri

*Vice President, KVRSS*

Mr. K Ramamurthy holds a Master of Technology from IIT, Kharagpur. He has over 30 years of experience in the Telecom sector. He is the recipient of the Geospatial World Forum Excellence Award (2011) for the Application of Geospatial technology in Telecommunications and PC Quest Award (2010) for the Overall Best IT project in India.

We are celebrating our silver jubilee with the annual event of 2025. It marks a significant milestone in our journey.


The society began its journey by instituting a research award in Chemistry and my father, Dr K V Rao, attended the first oration lecture in March 2001. He always emphasized the need to spread the awareness of science and cultivate a scientific temper to address issues impacting us.

Our programs and initiatives have targeted the encouraging and kindling interest in science in the formative years while in schools and encouraging the Research Scholars in Universities and Research Institutes. Over the last 25 years we gradually expanded our geographical reach from serving the Hyderabad region to pan India footprint. We had quite a few challenges, and we can be reasonably proud of this significant milestone in our journey in the service of spreading awareness of science and encouraging innovation in science.

As India targets to become the 3rd largest economy by 2030 and science and technology play a pivotal role in achieving this goal.

According to Invest India, - "India, the world's fourth-largest economy, is poised to be the third largest globally by FY 2030-31, clocking an estimated 6.5% real gross domestic product (GDP) growth in FY 2025-26 - a feat powered by its growing tech prowess and a vibrant innovation and R&D ecosystem. The tech sector contributed 7.3% to India's GDP in FY 2024. By 2030, India's digital economy is projected to contribute to nearly one-fifth of the country's overall economy"





In a recent article in McKinsey's Insights "By 2047, 20 percent of the world's working-age population will live in India, and this population is increasingly skilled. India today accounts for 16 percent of the global AI talent pool and turns out five times as many STEM graduates as the United States. The country can be the talent factory for the world"

As can be seen from above - new areas of science and technology will make a significant impact on the economy - the activities of the society will have to expand to include a few of these areas.

In addition to our existing programs, we should perhaps start a discussion on new frontiers of science and technology. We can possibly begin with guest lectures and webinars on a periodic basis. This will bring awareness to new frontiers of science and also help us to further collaborate with the research institutes on these emerging areas of research.

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.

We have been very fortunate to have generous donors who helped us with financial contributions. While we thank you for helping us in our journey and we need your continued support as we expand our activities in the coming years. Funding these initiatives by individuals and corporate entities will encourage us to do more.

The guidance of the scientists and professors is invaluable as we foray in new areas. We are ever indebted to the scientists from the industry and universities who have helped immensely by their active participation. We look forward to guidance and help from this community.

We rededicate ourselves to the vision of Dr K V 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 working with you for a better tomorrow.



## 2.3. Secretary's Message



### Dr. Ratna Kolluri

*Secretary, KVRSS*

Dr. K Ratna, M. Tech and PhD from IIT Delhi, is one of the founder members. She has been spearheading all the activities of KVRSS right from inception. She has led many children and women centric programmes and is a recipient of Vocational Excellence Award from the Rotary Club of Cantonment Secunderabad.

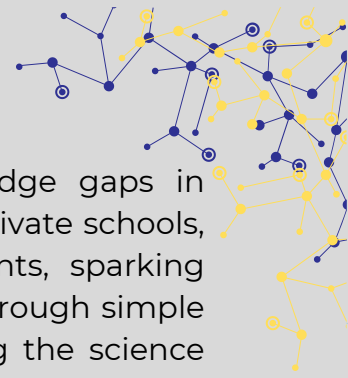
It gives me immense joy to present this message on the occasion of the 25th Annual Day of Dr. K V Rao Scientific Society (KVRSS). This year marks a very special milestone in our journey of nurturing scientific curiosity and promoting research culture among students and young researchers across India.

From a humble beginning in 2001 with a single research award in Chemistry, the Society has grown into a national platform that today embraces school students, teachers, and doctoral researchers alike. Over these 25 years, more than 75,000 students have experienced science in new and exciting ways through our awards, hands-on programs, innovation centers, and outreach initiatives. Many of our awardees are now leading scientists, faculty, and mentors themselves - a testimony to the vision of our founder, Dr. K V Rao.

The year 2024–25 was marked by both scale and diversity in our activities. The Research Awards, the flagship of KVRSS, drew participation of 238 applicants from over 100 premier institutions across 25 states, reflecting the vibrancy of India's research landscape. It was particularly rewarding to see several of our past awardees return as judges, panelists, and mentors, an affirmation of the enduring bond we share with our awardees.

At the school level, our SPARK Innovation Awards and SMART (Science Meets Art) Awards once again revealed the creativity and problem-solving potential of young students. Whether through innovative models, artistic interpretations of the microscopic world, or concept demonstrations, students demonstrated that science is not confined to laboratories but is woven into the way we see and understand the world.





Our Mobile Science Lab and Innovation Centre continued to bridge gaps in experiential learning. For many children in government and smaller private schools, these initiatives offered their very first exposure to live experiments, sparking confidence and curiosity. Whether it was understanding probability through simple games, watching polymers form in front of their eyes, or discovering the science behind nutrition and food safety, through these initiatives, we are ensuring that students, especially from schools with limited resources, are not left behind in experiencing the wonders of science.

Observances of special days, World Food Day, World Science Day, Foundation Day, National Science Day, Women's Day, Pi Day, and Vignyanotsav added richness to the year, each bringing together scientists, students, and teachers in meaningful engagement. One of the highlights was the Science Safari during the summer, where young participants spent four immersive days experimenting, exploring, and interacting with scientists.

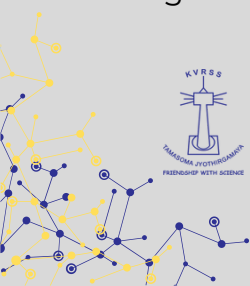
This Annual Day is also a moment to honor the eminent scientists who join us this year. We are privileged to have Prof. Madhavi Latha, IISc deliver the Dr. K V Rao Memorial Oration, and Dr. Vinay K. Nandicoori, Director of CSIR-CCMB, as our Chief Guest. Their presence reinforces the Society's role as a bridge between established scientists and young aspirants.

KVRSS has been privileged to receive the support of eminent scientists, academicians, teachers, and past awardees who have dedicated their time to evaluating projects, mentoring students, and ensuring a constructive experience. Their invaluable contribution has sustained the credibility of our awards and inspired generations of students. We sincerely thank all judges and mentors who have guided us in this journey.

None of this would have been possible without the tireless efforts of our Executive and Technical Committees, our volunteers, and the encouragement of our mentors and partners. I extend my heartfelt gratitude to all our donors - individuals, corporates, and institutions whose generosity has enabled us to sustain and expand our programs. Every contribution, big or small, has directly translated into opportunities for young students and researchers.

As we celebrate 25 years, we look to the future with renewed energy and vision. We aspire to expand our outreach, establish more centres for innovation, and build structured mentorship programs that will guide students from curiosity to careers in science.

On this occasion, I thank each of you for being a part of this journey and invite you to continue walking with us. Together, we can ensure that science remains not just a subject in textbooks, but a source of curiosity, creativity, and confidence for generations to come.





# ANNUAL AWARDS 2024-25



## 3.1. Research Awards

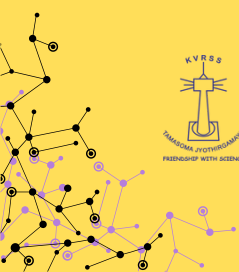
The KVRSS Research Awards stand as a prestigious recognition of academic excellence, conferred upon promising young researchers under the age of thirty who are pursuing research in Physics, Chemistry, Biology, and Mathematics at various universities and research institutions across India. These awards celebrate the spirit of inquiry, originality, and scientific rigor demonstrated in the course of doctoral research. The program continues to be a vital platform for nurturing scientific excellence and innovation among the nation's emerging researchers.

KVRSS started its journey in 2001 with one award in only the field of Chemistry and gradually added other fields, Physics, Biology and Mathematics. From limiting to the state of Andhra Pradesh in its initial years and moving on to southern states and finally covering all the states of India, it has been a very rewarding for the Society too. In these 25 years KVRSS has seen more than 1900 applicants participating from about 200 institutions spanning about 25 states. Till date 233 young researchers have been presented with these awards, many of whom have risen to esteemed positions in their respective careers.

In this journey KVRSS also had the opportunity to interact with a number of eminent scientists who diligently supported in selecting the right candidates for the awards. The research awards are evaluated by panels of eminent scientists from reputed national institutions, universities and research organisations. Their expertise and impartial assessment ensure a transparent and merit-based selection process. The prestige of having one's work recognized by such distinguished judges has made the awards highly sought after by students and institutions alike.

In its 25<sup>th</sup> year, the program saw an impressive response with 238 applications received from Research Scholars representing more than 100 premier institutions, 25 states across the country. Following a rigorous multi-stage evaluation, the shortlisted candidates presented their research work, engaging in insightful discussions with a panel of expert judges, few of them were our esteemed past awardees. Top three candidates in each category are selected for awards.

The Research Awards continue to uphold the KVRSS mission of nurturing young scientific minds and promoting a culture of excellence in research.



# GANITAM (Mathematics) Awardees

## Winner

### Md Irfan Habib

Indian Institute of Science, Bangalore, Karnataka

Project: Root Generated Subalgebras of Symmetrizable Kac-Moody Algebras

Supervisor: Prof R Venkatesh



## Runner Up I

### Mainak Bhowmik

Indian Institute of Science, Bangalore, Karnataka

Project: Herglotz's Representation and Caratheodory's Approximation

Supervisor: Prof Tirthankar Bhattacharyya



## Runner Up II

### Shivangi Yadav

Indian Institute of Technology, Gandhinagar, Gujarat

Project: Sign Regular Matrices and Variation Diminution: Single-Vector Tests and Characterizations

Supervisor: Prof Projesh Nath Choudhury



# BHOUTIKAM (Physics) Awardees

## Winner

### Rahul Kumar

Jawaharlal Nehru Centre for Advanced Scientific Research, Bengaluru, Karnataka  
Project: A Rare Realization of a Disorder-Free Quantum Spin Liquid on a Square-Like Lattice  
Supervisor: Prof A Sundaresan



## Runner Up I

### Papia Panda

University of Hyderabad, Hyderabad, Telangana  
Project: Determination of Neutrino Mass Ordering from Supernova Neutrinos with T2HK and DUNE  
Supervisor: Prof Rukmani Mohanta

## Runner Up II

### Arup Biswas

The Institute of Mathematical Sciences, Chennai, Tamil Nadu  
Project: Thermodynamic Work of First Passage Processes under Stochastic Resetting  
Supervisor: Dr Arnab Pal



# JEEVANAM (Biology) Awardees

## Winner

### Mohammad Sahil

Tata Institute of Fundamental Research,  
Hyderabad, Telangana  
Project: A 3 site Multiple-Substrates-Bound State  
of Cytochrome P450cam  
Supervisor: Dr Jagannath Mondal



## Runner Up I

### Sandip Patra

Centre for DNA Fingerprinting and Diagnostics,  
Hyderabad, Telangana  
Project: GPI-Anchored Aspartyl Proteases Target  
the Host Actin Nucleator Complex Protein to  
Suppress Epithelial Innate Immunity  
Supervisor: Dr Rupinder Kaur



## Runner Up II

### Devidutta Samantaray

Indian Institute of Science Education and Research,  
Tirupati, Andhra Pradesh  
Project: Unravelling the Role of Histone Deacetylases  
in Thermopriming-Mediated Acquired  
Thermotolerance in Arabidopsis Thaliana  
Supervisor: Dr Annapurna Devi Allu



# RASAYNAM (Chemistry) Awardees

## Winner

### **Khazeber Ravichandran**

Indian Institute of Science Education and Research,  
Thiruvananthapuram, Kerala

Project: Simultaneous and in situ Syntheses of an  
Enantiomeric Pair of Homochiral Polymers as their  
Perfect Stereo Complex in a Crystal

Supervisor: Prof Kana M Sureshan



## Runner Up I

### **Abhishek Kumar Yadav**

Indian Institute of Technology, Kanpur, Uttar Pradesh

Project: Highly Promising Primary Explosive: A Metal-  
Free, Fluoro-Substituted Azo-Triazole with  
Unmatched Safety, and Performance

Supervisor: Dr Srinivas Dharavath



## Runner Up II

### **Priyanka Gogoi**

Dibrugarh University, Dibrugarh, Assam

Project: Ag-gC<sub>3</sub>N<sub>4</sub> as Copper-free Heterogeneous  
Catalyst for Photocatalytic Azide-Alkyne  
Cycloaddition Reaction

Supervisor: Prof Diganta Sarma



## 3.2. SPARK Innovation Awards

The SPARK program was started in 2011 to provide a platform for young minds to showcase their creativity, critical thinking, and problem-solving skills. The focus is on fostering the spirit of scientific enquiry and promoting innovation among school children. Such competitions create a supportive environment where students can share their ideas, learn from each other, and be inspired by the exciting possibilities within the fields of science and math. The proposals are also encouraged to focus on the application of the concepts in daily life.

Started in AP, now the event encompasses school students across India. The competition is open to school students from classes 7 to 12 and held in the four basic sciences and awards presented in each field separately. KVRSS received 304 projects from 112 schools and 20 states for the awards this year. After two rounds of screening, 40 projects, 10 from each field of Math, Chemistry, Physics and Biology were selected for the final presentations. The event was held in Hyderabad and evaluated by a panel of judges in respective fields.

Top 4 projects in each field were selected for awards after the assessment by the judges, who evaluated the projects on various parameters which look not only at the innovative ideas but also at the knowledge and contribution of the student/s to the project. Of these, top two winners in each field receive Annual Science awards and other two receive consolation prizes.



# GANITAM (Mathematics) Awardees

## Winner

### **K Lakshith & A Vikas**

Class 8

Paramita Heritage, Karimnagar, Telangana

Project: Mathematical Modelling of Triangular Reflections and its Applications

Guide Teacher: Mr Lalit Mohan Sahu



## Runner Up

### **Aarush Motiani, Yuti Patel & Jasvi Patel**

Class 8

Anand Vidya Vihar School, Vadodara, Gujarat

Project: STRIKENOVA (Ignite your Luck)

Guide Teacher: Ms Shivalika M Savant

## Consolation

### **Mahasvin Vushakola, Janaira Rathore & Abhinav Krishna Rao K**

Class 7

Bharatiya Vidya Bhavan's Atmakuri Ramarao School, Hyderabad, Telangana

Project: "PolyGEOgons"- Connecting the World

Guide Teacher: Ms M V S Narasamamba



## Consolation

### **B Mokshita Reddy & P Lasya Priya**

Class 9

Bharatiya Vidya Bhavan's Atmakuri Ramarao School, Hyderabad, Telangana

Project: Bisecting Problems, Connecting Solutions: The Power of Circles

Guide Teacher: Ms M Srilakshmi

# BHOUTIKAM (Physics) Awardees

## Winner

### Jasneek Kaur & Indraneil Banerjee

Class 9

Apeejay School, Faridabad, Haryana

Project: Sustainable Cooling System

Guide Teacher: Ms Suman Chaudhary



## Runner Up

### Namish Dawar

Class 8

Summer Fields School, Gurugram Haryana

Project: SMART SELF-Stabilizing Spoon-For People Suffering with Parkinson's

Guide Teacher: Ms Poonam Anand

## Consolation

### Swapnil Saha, Surya Sekhar Pahari & Ritam Talukdar

Class 9

Vivekananda Mission School, Kolkata, West Bengal

Project: Wireless Dynamic/Stationary Electric Vehicle Charging

Guide Teacher: Mr Sourav Bhattacharyya



## Consolation

### Siddhant Chitra Shibu, Parth Bhatla & Arnav Tanwar

Class 9

Tagore International School, Vasant Vihar, New Delhi

Project: Echo Grocer

Guide Teacher: Ms Gauri Sen

# JEEVANAM (Biology) Awardees

## Winner

### Aryansh Ashneet

Class 7

DAV Public School, Bhubaneswar, Odisha

Project: CPR Buddy

Guide Teacher: Mr Jyoti Rajan Mohanty



## Runner Up

### Shreyansh Mistry & Krrisha Agrawal

Class 7 & 8

Delhi Public School, Raipur, Chhattisgarh

Project: Super Absorbent Hydrogel for Enhanced Soil Irrigation System

Guide Teacher: Mr Sujit Kumar Dash

## Consolation

### Tanush Pal

Class 7

St Thomas School, Indirapuram,  
Ghaziabad, Uttar Pradesh

Project: Aqua Rover - A Revolutionary Solution for  
Water Pipeline Maintenance

Guide Teacher: Ms Neena Jha



## Consolation

### Gowlikar Mayank Raj, Mirza Anas Ali Baig & Aamandip Samanta

Class 9

Little Flower High School, Hyderabad, Telangana

Project: IOT Fertilizer Feeding Machine

Guide Teacher: Mr Santhosh

# RASAYNAM (Chemistry) Awardees

## Winner

### Mitra Jain & Priyanka Ahuja

Class 9

Sri Sathya Sai Vidya Vihar School,  
Indore, Madhya Pradesh

Project: Aqua Harmony-Dual Defense for Pure Water

Guide Teacher: Ms Rachana Gupta



## Runner Up

### Sreegowri Jayesh & Sraddha Variar

Class 8

Kulapathi Munshi Bhavans Vidya Mandir School,  
Thrissur, Kerala

Project: SMART Bio Plastics for Sustainable Fresh  
Food Packaging

Guide Teacher: Dr Nisha Nanda Kumar

## Consolation

### Shobha & Samarth Maheshwari

Class 9

Maharaja Agarsain Public School,  
Ashok Vihar, New Delhi

Project: Bio Block Repellent: Waste Wise Storage

Guide Teacher: Ms Ruchi Sharma



## Consolation

### Vedanshi Singh, Kartikey Jaiswal & Rudra Kashyap

Class 10

Delhi Public School, Raipur, Chhattisgarh

Project: Eco-Caps: Biodegradable Nutrient Capsules for  
Sustainable Agriculture

Guide Teacher: Mr Sujit Kumar Dash

## 3.3. SMART Awards

In honour of National Science Day, commemorating Sir C.V. Raman's groundbreaking discovery, each year students from across India, from the curious 7th graders to the seasoned 12th, are challenged to transform scientific concepts into breathtaking artwork. Thus the KVRSS SMART Awards, celebrates the intersection of science and art, and its endeavour is to ignite the imagination of students and give a visual aspect to science.

The theme for the year 2024-25 was: explore the "Microscopic World". Students had to visualize cellular structures and microorganisms through 2D artwork, crafting narratives that transformed scientific concepts into captivating stories. The event received an overwhelming response, with nearly 437 entries, from 107 schools and 18 states PAN India, each showcasing students' creative interpretations of the unseen world.

The judging process was intense, as the panel of scientists and art experts carefully evaluated each artwork for its scientific accuracy, artistic execution, and storytelling prowess. After rigorous scrutiny, and multiple rounds of evaluation by the panel 3 entries were selected for award and two additional students will receive consolation prizes.

The competition successfully fostered creative thinking and encouraged students to explore the wonders of the microscopic world, proving that science and art are powerful tools for understanding and interpreting the world around us.

### SMART Awardees



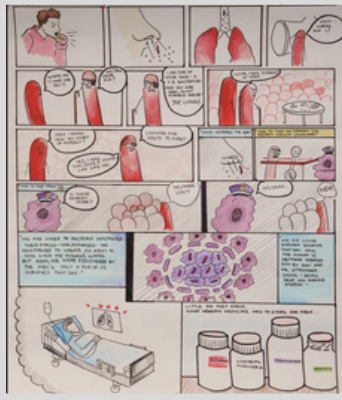
**Winner**  
**Charu Chauhan**

Class 9

Delhi Public School, Kalyanpur, Uttar Pradesh  
Topic: White Blood Cells – Soldiers of our Body

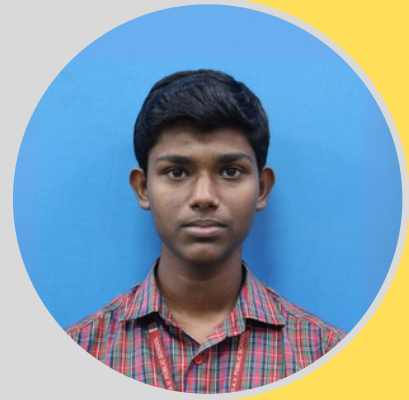


# SMART Awardees



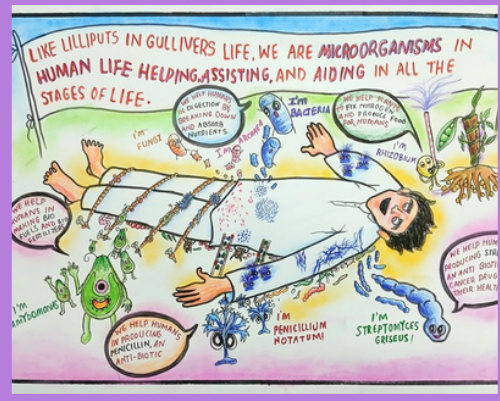
## Runner Up I Abu John Varghese

Class 9  
DAV Public School,  
Chennai, Tamil Nadu  
Topic: A Story of  
Microorganisms



## Runner Up II Mrugaank Prabhat Vernekar

Class 8  
DAV Public School,  
Sreshtha, New Delhi  
Topic: Role of  
MICROORGANISMS in a  
Human's Life



## Consolation Sanjeev M S

Class 8  
Amalorpavam Lourds  
Academy, Puducherry,  
Tamil Nadu  
Topic: The Microscopic  
World



## Consolation Aarohi Bhowmik

Class 7  
Tagore International School,  
Vasant Vihar, New Delhi  
Topic: The Battle Against  
Hepa - B



## 3.4. Eminent Supervisor Awards

Since its inception in 2001, the Dr. K. V. Rao Scientific Society has been committed to recognising and nurturing young scientific talent through its annual Research Awards for scholars below the age of 30. Over the years, these awards have grown into a platform of prestige, attracting nominations from senior scientists across leading research institutions in India. Many of their students have excelled, presenting high-quality research and earning recognition as KVRSS awardees.

Behind every successful young researcher stands a dedicated mentor. Research supervisors are the guiding force who shape ideas, instil scientific rigor, and inspire their students to strive for excellence. Their teams, built on collaboration and vision, form the backbone of path-breaking research. The success of students at the Society's competitions is therefore also a reflection of the supervisors' unwavering commitment to advancing science and high quality of research.

To honour this invaluable role, the Society instituted the Eminent Supervisor Award. This recognition is conferred upon distinguished scientists whose research groups have consistently produced outstanding work, with multiple students winning the KVRSS Research Awards over the years. It is a tribute not only to their personal excellence but also to their mentorship, leadership, and enduring contribution to India's scientific community.

The Eminent Supervisor Award stands as a celebration of the senior scientists who, through their scholarship and guidance, continue to inspire the next generation of innovators and leaders in science and uphold the spirit of research in India.

*The award has been presented to the following eminent scientists:*

### 2015-16

- Prof. Rajadurai Chandrasekhar, Professor, School of Chemistry, University of Hyderabad and Assistant Director, R&D (Sciences & Engg.), Institution of Eminence Directorate, University of Hyderabad.

### 2014-15

- Prof. T. P Radhakrishnan, Senior Scientist, School of Chemistry, University of Hyderabad.
- Dr. G. Bhanu Prakash Reddy, Senior Scientist, ICMR-National Institution of Nutrition, Hyderabad.
- Prof. D. Narayana Rao, Professor, School of Physics, University of Hyderabad.

In its 25<sup>th</sup> year two such outstanding supervisors will be felicitated: Prof. Tirthankar Bhattacharyya of Indian Institute of Science, Bangalore and Dr. Rajan Sankaranarayanan of CSIR-Centre for Cellular and Molecular Biology, Hyderabad. Four students from each of these scientists' groups have received KVRSS Research Awards and have done them proud by excelling in their work.



## Eminent Supervisor Awardee



### Prof. Tirthankar Bhattacharyya

*Professor, Department of Mathematics,  
Indian Institute of Science, Bangalore*

Professor Tirthankar Bhattacharyya, Department of Mathematics, Indian Institute of Science, Bengaluru, is a distinguished mathematician whose research spans operator theory on Hilbert spaces and several complex variables. His renowned characterization of distinguished varieties bridges functional analysis and algebraic geometry, while his work on Carathéodory's theorem and Herglotz representations has advanced long-standing mathematical problems.

He earned his Ph.D. from the Indian Statistical Institute in 1997 and held postdoctoral fellowships in India and Canada before joining IISc in 2000, where he currently serves as Professor (HAG). His research has been widely published in top international journals, and he is a Fellow of all three premier science academies in India.

Prof. Bhattacharyya is a recipient of many honors which include the J. C. Bose Fellowship (2022), the IISc Alumni Award for Excellence in Research (2022), and the Raja Ramanna Fellowship. A passionate teacher and mentor, he has guided numerous students, several of whom now hold leading academic positions; notably, four have received Young Scientist Awards from the Dr. K. V. Rao Scientific Society.

Through his pioneering research, inspiring teaching, and dedicated mentorship, Prof. Bhattacharyya has emerged as one of India's most respected figures in contemporary mathematics.

Research Scholars who received Awards under the guidance of Prof. Tirthankar Bhattacharyya are Dr. Haripada Sau (2016), Dr. Anindya Biswas (2019), Dr. Poornendu Kumar (2022) and Dr. Abhay Jindal (2023).



## Eminent Supervisor Awardee



### Dr. Rajan Sankaranarayanan

*Outstanding Scientist*

*CSIR - Centre for Cellular and Molecular Biology (CCMB), Hyderabad*

Dr. Rajan Sankaranarayanan is a distinguished structural biologist and Group Leader at the Centre for Cellular and Molecular Biology (CCMB), Hyderabad. He is internationally recognised for his pioneering research in protein translation, particularly his discovery of chiral proofreading during protein biosynthesis, a fundamental advance in understanding how proteins are made with high fidelity.

Born in Papanasam, Tamil Nadu, he completed his Master's at Madurai Kamaraj University and Ph.D. at the Indian Institute of Science under Prof. M. Vijayan. He then pursued postdoctoral research with Prof. Dino Moras at IGBMC, Strasbourg, where he worked on threonyl-tRNA synthetase, before returning to India in 2002 to join CCMB.

Dr. Sankaranarayanan's outstanding scientific contributions have been recognised with many of India's most prestigious awards, including the Infosys Prize in Life Sciences (2020), G. D. Birla Award for Scientific Research (2018), G. N. Ramachandran Gold Medal (2015), Shanti Swarup Bhatnagar Prize (2011), and the National Bioscience Award (2008).

Through his path-breaking research, Dr. Sankaranarayanan has established himself as one of India's leading life scientists, inspiring the next generation of researchers in structural biology and molecular life sciences.

Research Scholars who received Awards under the guidance of Dr. Rajan Sankaranarayanan are Dr. Tanweer Hussain (2007), Dr. Arvind Penmetsa (2008), Dr. Santosh Kumar Kuncha (2020) and Mr. Pradeep Kumar (2024)





# PROGRAMS 2024-25



# 4.1. World Food Day

On October 16th, 2024, KVRSS commemorated World Food Day by organizing a talk and demonstration session led by Dr. Anjali Devi, a renowned nutritionist and retired Registrar from Padmavathi Mahila University, Tirupati, and retired Professor at Osmania University, Hyderabad.

Dr. Anjali delivered an insightful talk on "Nutrition, Immunity, and Health in Children" and "Detection of Adulteration in Cereals and Grocery Items at Home." She emphasized the importance of balanced diets in promoting immunity and lifelong health, particularly in children. Key topics included the ideal diet composition for adolescents, the harmful effects of processed foods, and factors that influence immunity, both positively and negatively.

In addition to the talk, Dr. Anjali conducted practical demonstrations on detecting food adulteration, covering simple home tests to identify contaminants in everyday grocery items like cereals, milk, paneer, turmeric, and spices.

Around 60 students from Radiant and Saikrupa schools, along with their teachers, actively participated in the session, gaining valuable knowledge on nutrition and food safety.



## 4.2. World Science Day for Peace and Development

Celebrated on November 10, World Science Day for Peace and Development underscores the vital role of science in society and the importance of informed citizenship. This year's theme for the day was "Why Science Matters - Engaging Minds and Empowering Futures". In observance, Dr. K.V. Rao Scientific Society (KVRSS) hosted engaging scientific talks and demo session for school students.

The event featured two eminent scientists from Hyderabad Central University, Prof. T.P. Radhakrishnan and Prof. K.C. Kumara Swamy from the School of Chemistry, who delved into fundamental concepts in chemistry, bringing them to life through interactive demonstrations.

Prof. Radhakrishnan, captivated the students with a demonstration that illustrated the determination of Avogadro number. Using a simple water-splitting experiment, he showed how passing electricity through water produces hydrogen and oxygen in measurable quantities. This demonstration revealed the connection between electricity, moles, and the Avogadro number, offering students a tangible grasp of chemical quantification and reactions.

Prof. K.C. Kumara Swamy took students on a journey through the history and structure of the Periodic Table. He shared the evolution of the table when atomic weight was used as basis from Dmitri Mendeleev's first arrangement in 1869 to the modern organization based on atomic numbers and chemical properties. Prof. Swamy illuminated key concepts such as atomic radii, ionization energy, electron affinity, and electronegativity, sparking students' curiosity about the building blocks of matter.

The talks were highly interactive and well-received, and the students left with a richer understanding of chemistry's foundational principles. A total of 50 students and two teachers from Brahmam Talent School, Class X, attended the session.



## 4.3. KVRSS Foundation Day

On January 9, 2025, the Dr. K.V. Rao Scientific Society (KVRSS) proudly marked a major milestone, its 25<sup>th</sup> Foundation Day, celebrating a quarter-century of dedication to nurturing scientific curiosity and promoting research culture among young minds.

The event began by hoisting the KVRSS flag by the Guest of Honour, Prof. Jayanty Subbalakshmi, Head of Chemistry Department, BITS Pilani - Hyderabad Campus, a recipient of KVRSS Research Award in Chemistry in 2003 and a steadfast supporter of various activities of KVRSS.

Prof. Subbalakshmi presented an inspiring scientific talk on "Atomic and Molecular Interactions in Small Molecules and Polymers", seamlessly blending foundational concepts with advanced applications. The talk was interactive and kept the students engaged throughout the session. She discussed various topics, from atoms to compounds and various types of chemical interactions. The structure and composition of different polymers were also explored.

The session featured captivating demonstrations, such as making slime with Fevicol, neutralization reactions with acid and base indicators, and showcasing the production of nylon.

KVRSS hosted around 60 students from Academic Heights Public School (S R Nagar and Kukatpally branches) and Sai Krupa High School, who actively participated and gained valuable insights from the experience.



## 4.4. National Science Day

National Science Day is celebrated across India on February 28th each year to commemorate the discovery of the Raman Effect by Sir C. V. Raman in 1928. The day serves as a tribute to scientific achievement and aims to inspire a spirit of inquiry, innovation, and discovery among students and educators. It provides a platform to promote the importance of science in everyday life and to encourage young minds to explore careers in science and technology for national development.

### 4.4.1. Science in Color: Rangoli Competition

As part of its National Science Day celebrations, KVRSS reimagined scientific expression through the art of Rangoli, blending tradition with innovation in a uniquely vibrant celebration. Held on February 25, 2025, the Science Rangoli Competition turned the ground into a spectacular canvas of ideas.

38 teams each comprising two students from ten of Hyderabad's schools, presented concepts into dazzling visuals. From the mechanics of levers to the life cycle of a frog, structure of the ear to BODMAS, light scattering, asexual reproduction, and even geometric elegance in parallelograms—science spilled onto the floor in a riot of colour and imagination.

Participating schools included Sai Krupa High School, Chipotle, Delhi Public School, Little Flower, Sreenidhi, Radiant, Daksha, Krishnaveni Talent School and Academic Heights Public School (S R Nagar and Kukatpally branches).



# Rangoli Awardees

## Winner

**Annemalla Sri Lakshmi Sravani & Jyoti Bishokarma**

Class 9

Sai Krupa High School, Hyderabad, Telangana

Project: Structure of Ear



## Runner Up I

**K Sai Samanvi & G Shruthi**

Class 8

Chipotle School, Hyderabad, Telangana

Project: Types of Reproduction

## Runner Up II

**Y Naga Haetasri & K M N S S Mokshita**

Class 7

Delhi Pubic School, Hyderabad, Telangana

Project: Types of Levers



## Consolation

**N Homa Dharini & K Himasri**

Class 7

Chipotle School, Hyderabad, Telangana

Project: Scattering of Light

## Runner Up II

**Yashica & Shiny**

Class 8

Academic Heights Public School, Hyderabad, Telangana

Project: Blood Profile



## 4.4.2. Visit to Zilla Parishad High School, Bollaram

Zilla Parishad High School, Bollaram on February 28th, 2025, was abuzz with over 500 students experiencing science first hand as KVRSS brought the magic of National Science Day to life, turning the school into a living laboratory.

From the Catalase experiment to the dramatic "fake blood" demonstration and exothermic reactions, sounds of musical notes, the gentle "rain", and the rainbow bubbles, the students experienced various concepts of science. Math, often perceived as hard, became a playground of probability, fractions, and squares and square roots.

The KVRSS Mobile Science Lab, loaded with interactive models, became a focal point of fascination, igniting a spark of curiosity and explaining the complexities of science. For many students, this was their first encounter with real-time science beyond the textbook. Students articulated how the hands-on activities had given them better understanding of the subject making the event a great success.



## 4.5. International Women's Day

International Women's Day, celebrated on March 8 every year, is day to honor the achievements of women across the world and acknowledge their invaluable contributions to every field.

KVRSS strongly believes that empowering teachers is important in advancing scientific learning across schools as they are the people who tirelessly shape young minds and inspire future generations.

On March 10, 2025, science teachers from various schools, including Daksha School, Radiant High School, Academic Heights Public School (S.R Nagar and Kukatpally branches), Krishnaveni Talent School, Sreenidhi School, and Saikrupa School were invited to participate in an exciting and interactive session featuring science-based games. Teachers had the opportunity to experience firsthand how experiential learning and engaging activities can transform science education and make complex concepts more accessible and enjoyable for students.

The event also fostered lively discussions and knowledge-sharing among educators who shared their insights on making science more engaging in classrooms. The participating teachers were honored.



## 4.6. Pi Day

March 14th (3.14), reflects the first three digits of Pi (3.14), making it the perfect occasion to celebrate the elegance of mathematics and its real-world relevance. Pi ( $\pi$ ), the ratio of a circle's circumference to its diameter, is an essential concept across mathematics, physics, engineering, and technology.

KVRSS marked Pi Day on 17th March 2025 with a unique and engaging Origami session, demonstrating the beautiful confluence of mathematics and art and was conducted by Dr. Archana Morye, Assistant Professor, University of Hyderabad.

Dr. Morye introduced the students to various types of Origami and its diverse applications, ranging from the intricate folding patterns of the James Webb Telescope to the functionality of airbags and medical stents.

The students explored key mathematical concepts such as symmetry, proportions, and geometric constructions without using compasses or protractors!

Dr. Morye also shared a trick to help students remember Pi up to 10 decimal places: "May I have a large container of coffee? Thank you." (Each word's letter count represents a digit: 3.141592653).

The session saw enthusiastic participation from 35 students across 7 schools, Daksha, Radiant, Sai Krupa, Brahmam Talent, Chipotle, Krishnaveni, and Sreenidhi.



## 4.7. Vignyanotsav

To encourage local talent at school level and instill a love for science among students, KVRSS has launched a new initiative in its silver jubilee year, the first edition of Vignyanotsav. It is a science fair aimed at inspiring curiosity and innovation among students at Telangana State Board high schools exclusively. The inaugural event invited schools from Hyderabad to participate, focusing on three themes:

- Science in Action: Solving Local Problems
- Smarter Ideas for a Smarter Tomorrow
- Everyday Life & Smart Living

Around 20 schools of Hyderabad participated, with 13 teams shortlisted for the finals at the KVRSS Innovation Centre. Projects were evaluated by a panel of scientists, leading to the selection of four finalists, of which three winning teams will be awarded at the Silver Jubilee Annual Day on 12th September 2025.

The event also featured an inspiring lecture by Dr. Rohini Chintha, Assistant Professor, Veeranari Chakali Iamma Women's University, Hyderabad, who engaged students through science storytelling and her passion for the science of stones.

With Vignyanotsav, KVRSS has created a new avenue to identify, encourage, and celebrate talent exclusively of school students of Telangana. The success of this first edition marks the beginning of an annual tradition that will provide continuous support and a platform for innovative ideas to thrive.



# Vignyanotsav Awardees

## Winner

### **Manvitha Nadakudhiti, Sampangi Sritha Narayani & Mohammad Ayaan Muhsin**

Class 10, 8 & 7

Nalanda Educational Institutions, Hyderabad Telangana

Project: Design an Energy-Efficient Street Lighting System

Guide Teacher: Ms Manasa Divya



## Runner Up

### **G Sai Chandra, Humera Mohammadi & Mohammed Arhaan Uddin**

Class 9 & 7

Radiant High School, Hyderabad, Telangana

Project: : Smart Water-Absorbing Roads for Urban Flood Control

Guide Teacher: Mr. G Vamsi Krishna

## Consolation

### **Arjita Padala & R Hari Priya**

Class 10

Little Flower High School, Hyderabad, Telangana

Project: Siesmic Isolator

Guide Teacher: Ms K M Vijaya Laxmi



## Consolation

### **M Deshik & G Srideep**

Class 8

Sreenidhi Vishwabharathi High School, Hyderabad, Telangana

Project: Smart Irrigation using Solar Energy

Guide Teacher: Mr Surya Chinnam



# SCIENCE CONCEPTS HANDS-ON LEARNING



# 5.1. Concept Classes

At KVRSS, we believe science is not just about remembering facts, it's about understanding ideas that explain how the world works. That's why our focus is on concept teaching - bringing scientific principles to life through hands-on learning, demonstrations, and exploration.

Instead of rote memorization, students discover why things happen, developing critical thinking, problem-solving, and a lifelong curiosity for learning. KVRSS has built the infrastructure, expertise, and teaching tools needed to make this vision a reality for schools, students, and now even teachers.



KVRSS Science Innovation Centre at our office and Mobile Science Lab have become a hub of curiosity and creativity and are equipped to teach over 40 concepts across Physics, Biology, Chemistry, and Math for classes 7-10. While the Innovation Centre brings schools to science, the Mobile Science Lab takes science to schools to their door-step. These facilities especially support government and small private schools that lack laboratory infrastructure.



Our dedicated faculty and volunteers facilitate sessions, create unique content, and design activities tailored to each concept. Learning here isn't confined to a lecture, students experiment and also build models. Fully equipped with content and materials for Grades 7–10 across all branches of science, the team also adds a fun twist with games like jigsaw puzzles, crosswords, and challenges that reinforce concepts while keeping students engaged. In the past three years, over 8000 students from more than 25 schools attended classes regularly. About 500 classes were taken and more than 30 concepts of science were taught. The improvement in understanding of science concepts among students ranged from 50 to 80%.



The Innovation Centre and MSL also conduct demos for various schools to give a glimpse of the importance of hands-on experience for concepts learning. From science fairs to annual days, schools often invite KVRSS to be part of their special events. KVRSS also takes science sessions to residential areas to involve families and local communities to foster broader interest in science.



Scientists from various institutions in Hyderabad like University of Hyderabad, IITs, BITS-Hyderabad, ICT, and others regularly visit to share knowledge, demonstrate experiments, and inspire the next generation. Teachers, too, visit our facilities and seek guidance to build labs in their own schools.

At KVRSS, concept teaching is more than a program, it's a movement. It's where classrooms become laboratories, curiosity becomes confidence, and every student gets the chance to experience science, not just read about it.



## 4.1.1. IICT Workshop

On 27<sup>th</sup> July 2025, KVRSS was invited to present its unique pedagogy at the IGNITE STEM Hands-on Workshop, a flagship training initiative aimed at empowering school teachers in science education. Hosted at CSIR-IICT and organized by the Indian Development Foundation in collaboration with IICT Hyderabad, the event brought together over 300 teachers from schools across Hyderabad.

KVRSS team demonstrated its signature teaching methodology that emphasizes conceptual clarity through hands-on learning. The team conducted live experiments that illustrated how abstract scientific principles can be simplified and made engaging in the classroom. KVRSS's emphasis on affordability and effectiveness resonated with educators, offering scalable solutions for enhancing science education in diverse educational settings.

Feedback from attendees reflected their appreciation for this fresh perspective on science pedagogy. Many expressed intent to incorporate similar methods in their own teaching practices, underlining the growing relevance of experiential science education.



## 4.1.2. Visit to IICT

KVRSS participated in the Popular Science Symposium and Innovation Workshop on 31<sup>st</sup> August 2024, an impactful event held at IICT. This initiative was designed by alumni association of N C E Bengal & Jadavpur University to foster scientific curiosity and innovation among students, teachers, and the general public.

KVRSS showcased its Mobile Science Lab - a traveling hub of innovation and experimentation. With its array of portable equipment and live demonstrations, the lab received enthusiastic response from over 250 participants, including students, teachers, and parents.

The team conducted engaging, curriculum-based experiments in physics, chemistry, biology, and mathematics, using simple materials to make learning fun and relatable. The lab drew enthusiastic participation and highlighted KVRSS's commitment to accessible, hands-on STEM education for all.



### 4.1.3. Visit to DRDO, Hyderabad

On 10<sup>th</sup> October 2024, the KVRSS Mobile Science Lab (MSL) made a significant visit to the Defence Research Development Organization (DRDO), igniting curiosity and passion for science among young students as part of its weekly initiative to bring hands-on science experiments to various schools/institutes. DRDO provided a unique platform to showcase the wonders of science to a diverse audience.

The MSL team captivated students from nearby schools, including Defence Labs School, BPDVA School, Kendriya Vidyalaya, and Labs Quarter's Branch, with a series of fascinating experiments in biology, physics, chemistry, and mathematics. The interactive demonstrations sparked excitement and encouraged students to explore the scientific world.

The visit was further enhanced by the presence of esteemed guests from DRDO, DMRL, RCI Imarat, and DLRL. Additionally, Dr Preetha Reddy, Vice-Chairperson of Apollo Hospitals, graced the event with her presence, demonstrating the broader impact of science education.

The KVRSS team also took the opportunity to present an overview of the organization, its diverse activities, and its innovative teaching methodologies. This provided valuable insights into the unique approach KVRSS takes to inspire and educate young learners.

The visit of the KVRSS Mobile Science Lab to DRDO was a resounding success, leaving a lasting impression on the students and guests alike. By bringing science to life through engaging experiments and demonstrations, KVRSS continues to play a vital role in nurturing the next generation of scientists and innovators.



## 4.2. Science Safari

KVRSS's Science Safari transforms school vacations into inspiring scientific adventures. Launched in 2023, this flagship program sparks curiosity among students of classes 6 to 12 through hands-on, interactive learning. The 2025 summer edition welcomed 14 enthusiastic participants from reputed Hyderabad schools, offering small-group engagement, critical thinking, and peer collaboration.

Over four days, students explored science beyond textbooks through experiments, model-making, and real-world applications while building life skills in teamwork, creativity, and communication. Eminent scientists inspired them with stories from the frontiers of research, fueling their passion for STEM.



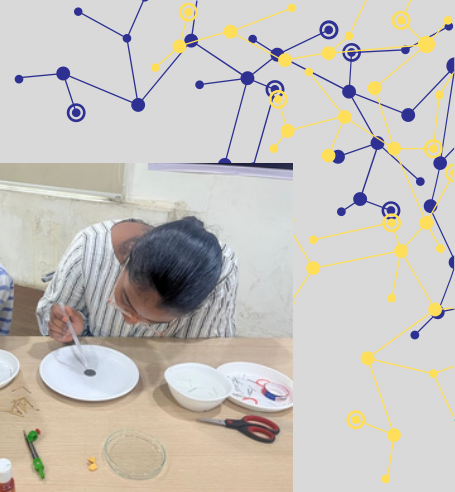
### Day 1 : Invisible Worlds & Folded Wonders

- Cell-abration: Lab tests (Biuret, Benedict's, Ethanol Emulsion, Iodine) revealed hidden nutrients; agar plate cultures exposed unseen microbes.
- Paper-azzi: Origami met math, teaching geometry, symmetry, and structural strength through playful folds.

### Day 2 : Water, Waves & Wonder Machines

- Water You Waiting For?: Experiments on surface tension, capillary action, and sound waves with floating flowers, coin drops, Jal Tarang, and spinning cups.
- It's FUN When You DIY!: Students built Archimedes' Screw models, exploring simple machines and their applications.





### Day 3 : Science in Space & on Your Plate

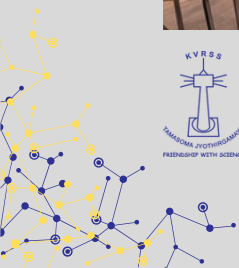
- Meet the Scientist: Dr. P. Manjusree (NRSC-ISRO) discussed rockets, satellites, GPS, and black holes.
- Kitchen Alchemy: Dr. Y. Aparna explained fermentation science with curd, dosa, and bread, blending microbiology, chemistry, and taste.

### Day 4 – Stories, Scientists & Sparks of the Future

- ACT-itude: Theatre with Mr. Shanta Rao wove Newton’s laws and sustainability into stories.
- Graduation: Students envisioned solving global challenges; certificates marked their inspired journey forward.



Science Safari was a living, breathing classroom where science was not just taught—it was experienced. Through every fold, swirl, and spark, curiosity turned into confidence, and young minds left with knowledge, memories, and dreams of becoming tomorrow’s scientists.





# ANNUAL DAY 2024-25



DR. K V RAO SCIENTIFIC SOCIETY

ANNUAL REPORT 2024-25

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## 5.1. Annual Day 2024-25

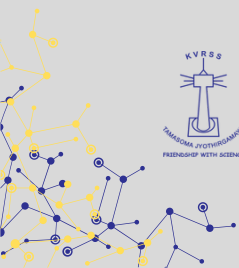
The Annual Day of Dr. K. V. Rao Scientific Society (KVRSS) is a celebration of science, talent, and innovation. Instituted in memory of Dr. K. V. Rao, the Annual Day has, for the past 24 years, brought together bright young minds, scientists, educators, and well-wishers to honor and encourage excellence in science.

The highlight of the Annual Day is the Science Awards Ceremony, where outstanding students from schools, and universities across India are recognized for their exceptional achievements in scientific research and innovation. These awards, presented after a rigorous selection process, serve to motivate students to pursue science with passion and integrity.

The Annual Day also features the KVRSS Memorial Oration, delivered each year by a distinguished scientist or academician of national or international repute. This oration not only commemorates the legacy of Dr. K. V. Rao but also provides inspiration and valuable insights to young students and researchers.

Beyond awards and lectures, the Annual Day is a gathering of the extended KVRSS family, the judges, mentors, scientists, donors, and supporters who have selflessly contributed to nurturing a culture of scientific inquiry over the last 25 years. It reflects the Society's core vision, to make science an integral part of life for all.

The 25th Annual Day, to be held on 12<sup>th</sup> September 2025 at the PM Bhargava Auditorium, Centre for Cellular and Molecular Biology (CCMB), Hyderabad, marks a silver jubilee milestone. With special session of felicitating our judges from Hyderabad, recognition of both students and eminent supervisors, this year's celebration is not only about honoring achievements but also about reflecting on a journey of 25 years dedicated to popularizing science.



## 5.2. Orator Profile



### Prof. Madhavi Latha Gali

*Professor, Department of Civil Engineering  
& Chair of the Centre for Sustainable Technologies  
Indian Institute of Science, Bengaluru*

**Oration Topic: “The Himalayan task of connecting Jammu and Srinagar by train”**

Prof. Madhavi Latha was born to a farming couple in a small village called Yedugundlapadu in Andhra Pradesh. She was the first engineer from her village. She did her BTech from JNTU College of Engineering Kakinada, MTech from NIT Warangal and Ph.D. from IIT Madras. She joined IISc in 2003 as the first female faculty member of its more than 50-year-old Department of Civil Engineering.

Her research focuses on soil reinforcement, geosynthetics, and rock engineering. She has pioneered image-based techniques to study micro-level shear mechanisms in soils and has contributed extensively to seismic response studies of reinforced retaining structures. She is also known for her work on stability analysis of rock slopes and tunnels.

She is the primary geotechnical consultant to the world’s highest railway bridge constructed across river Chenab in Jammu. She worked for 17 years in this iconic national project, for its entire period of construction from 2005 to 2022.

She is a fellow of the Indian National Academy of Engineering. She received several awards including the Best Woman Researcher in Geotechnical Engineering award, Prof. S. K. Chatterjee outstanding researcher award and IISc Yashokirti award. She is listed in the top 75 women in STEAM of India.

We are privileged to have Prof. Madhavi Latha deliver the Silver Jubilee Dr. K. V. Rao Memorial Oration during the 25th Annual Day.



## 5.3. Chief Guest Profile



### Dr. Vinay K Nandicoori

*Director  
CSIR - Centre for Cellular and Molecular  
Biology (CCMB), Hyderabad*

Dr. Vinay K. Nandicoori is the Director of CSIR-CCMB, Hyderabad, and a renowned molecular biologist whose research focuses on the signaling networks of *Mycobacterium tuberculosis*. His pioneering work has provided key insights into the molecular basis of tuberculosis pathogenesis and identified potential therapeutic targets for combating drug-resistant TB.

Dr. Nandicoori obtained his B.Sc. in Chemistry, Physics, and Mathematics from Andhra University, an M.Sc. in Biotechnology from IIT Bombay, and a Ph.D. in Molecular Biology from IISc, Bengaluru. He pursued postdoctoral research at Texas A&M University and the University of Virginia, USA, before returning to India. He served as a Scientist at the National Institute of Immunology, New Delhi, for 17 years before taking charge as Director of CCMB in June 2021.

With over 70 publications in leading international journals, Dr. Nandicoori is widely recognized for his contributions to tuberculosis research. He is a recipient of the prestigious J. C. Bose Fellowship and is an elected Fellow of the Indian Academy of Sciences and the Indian National Science Academy. Under his leadership, CCMB continues to strengthen its role as a premier institute advancing research in modern biology and addressing national health challenges.



## 5.4. Recap of Annual Day 2023-24

The 24th Annual function of the Society was held on July 13, 2024 at Bhaskara Auditorium B.M. Birla Science Centre, Adarsh Nagar, Hyderabad.

The entire program was live-streamed, enabling a wider audience to participate virtually, and received over 800 views.

The 24th Annual Science Awards were graced by Dr. Priya Abraham, Senior Scientist, Department of Virology, Vellore Institute of Technology, and former Director, National Institute of Virology, Pune, who played a pivotal role in spearheading the development of the indigenous vaccine, Covaxin, during the Covid-19 pandemic. Dr Abraham delivered the Memorial Oration on “The Making of an Indigenous COVID Vaccine and More”, which gave a fascinating insight into the challenges, breakthroughs, and teamwork involved in developing the vaccine for India.

Prior to the oration, Dr. Abraham visited the KVRSS office, commending the Society’s initiatives in popularizing science and promoting STEM education. She also suggested engaging and impactful activities for students, emphasizing cleanliness as a key preventive measure against viral infections.

The Chief Guest, Mr. Partho Pratim Kar, Joint Managing Director, Jaykay Enterprises Ltd., New Delhi, addressed the audience with perspectives on leadership, industry-academia collaboration, and the role of science in driving societal progress.



As part of the cultural-science segment “Symphony of Science”, students presented two engaging performances: “Scientists on the Ramp”, a creative portrayal of famous scientists and their contributions, and “Class to Concept”, a skit demonstrating the transformation in students’ learning through KVRSS’s hands-on teaching methods. These programs were designed and guided by the KVRSS scientific resource team, with enthusiastic participation from Daksha School and Sreenidhi Vishwabharati High School students. The presentations showcased how KVRSS’s approach to make science relatable, engaging, and inspiring for young learners.

The awards segment recognised excellence across four major categories:

- School Talent Awards (with APCOST)
- SMART (Science Meets Art) Awards
- SPARK Innovation Awards in basic sciences for school students
- Research Awards for outstanding doctoral work by research students

The event also featured the release of the Annual Report and the first book in the Science Unblocked series, containing interactive science puzzles, crosswords, and games for experiential learning.

The program concluded with the presentation of mementos to the Orator and Chief Guest as token of appreciation.

Students and teachers from various schools of Hyderabad, research students and awardees and scientists from various institutions attended the function.





# THE BACKBONE



DR. K V RAO SCIENTIFIC SOCIETY

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# 6.1. Executive Committee



**Mr. Anil Kumar Kutty**

*President*



**Mr. K Ramamurthy**

*Vice President*



**Dr. K Ratna**

*Secretary*



**Ms. C B Lakshmi**

*Joint Secretary*



**Ms. Latha Parekh**

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**Dr. K Sridhar Rao**

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*Member*



## 6.2. Technical Committee



**Prof. K. V. A. Ramaiah**

*School of Life Sciences, University of Hyderabad*



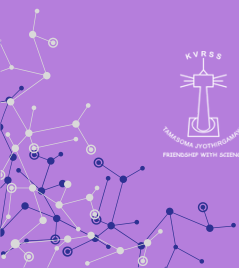
**Prof. T. P. Radhakrishnan**

*School of Chemistry, University of Hyderabad*



**Prof. P. Thiruvikraman**

*Department of Physics, BITS Pilani, Hyderabad*



## 6.3. Team KVRSS



**Neeraj Dulare**

*Office Administrator*



**Aparna Nalam**

*Coordinator*



**Kavitha Ponnala**

*Resource Consultant*



**K Narshimha**

*Technical Assistant*



**P Aruna**

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