



Dr. K. V. RAO SCIENTIFIC SOCIETY

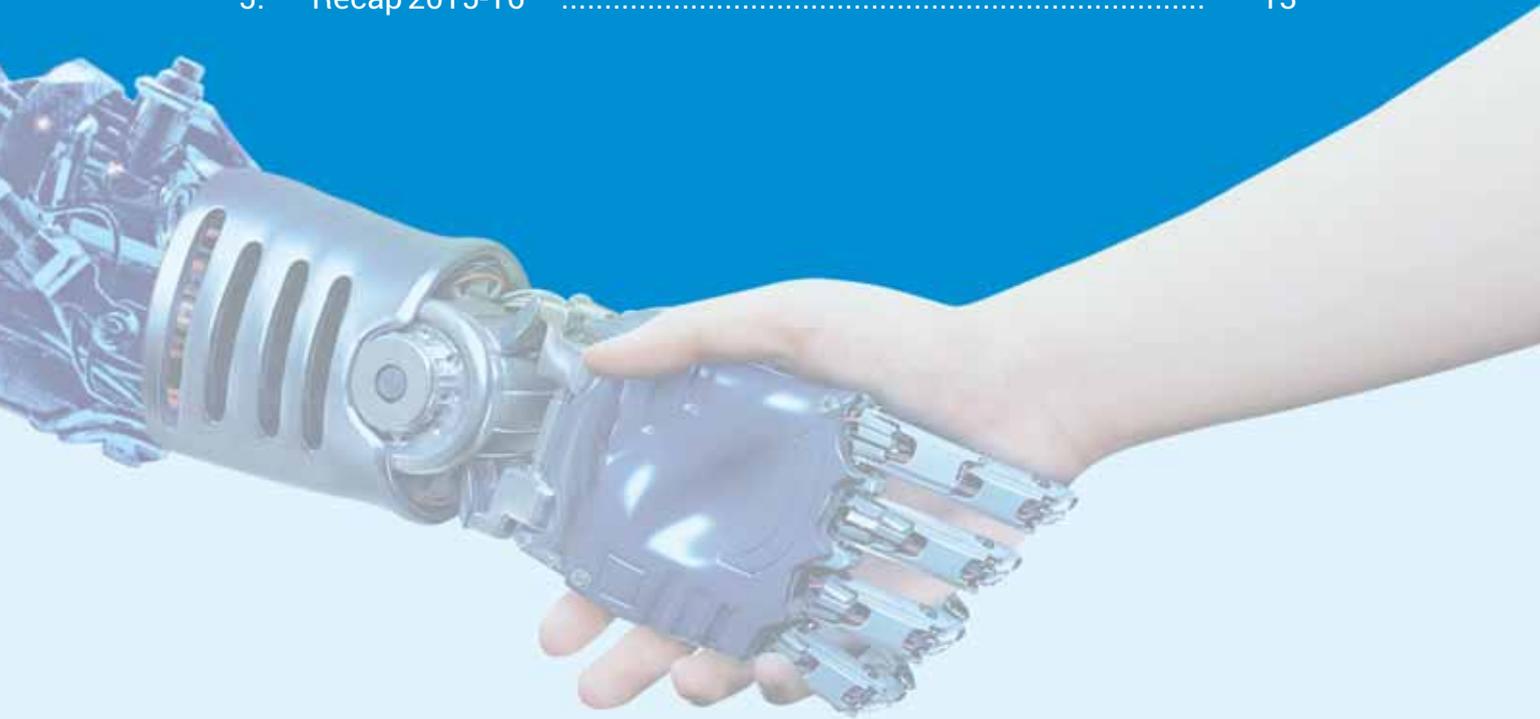
FRIENDSHIP WITH SCIENCE



ANNUAL REPORT
2016-17

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President's Note

KVRSS is dedicated to fostering the spirit of scientific enquiry and love of science in the youth of the country. Led by our dynamic secretary Dr. Ratna, this year too, we have conducted a number of programs towards achieving our goals.

Special mention must be made about the quality of participation in our 'Spark Innovation' contest. It is a matter of great pride to us that this year – the sixth year since introduction of this contest - we have received a number of very imaginative and innovative exhibits that reflect the deep thinking and scientific temperament of the proponents. We hope this contest will inspire more youngsters to put on their thinking caps and innovate and come up with creative ideas for tackling the various issues they perceive in daily life.

This year's annual function takes place against the backdrop of the news of US restrictions on Indian software professionals and about 'mass lay-offs' in the Indian IT sector. This has understandably left a lot of young aspiring students confused - whether a career in science will ensure a secure future. Speaking on behalf of the IT Industry, the Nasscom president Mr. Chandrasekhar has clarified that while there has been a gentle deceleration in the net hiring growth rate due to shifting of focus towards innovation, the sector continues to hire fresh and lateral employees in equal proportion. During the last financial year 1.7 lakh people were added while in the fourth quarter alone 50,000 jobs were created resulting in an IT workforce of about 39 lakhs. However, what needs to be understood is that the technology environment is fast changing and the IT industry needs to constantly reinvent itself by reskilling its employees to match the needs of new and emerging technologies.

Going forward, what this means is that while IT jobs will continue to hold centre-stage for quite some time to come, the new recruits must not merely possess basic programming skills - but must have the ability to constantly upgrade and learn new skills - to be able to work with and build upon the new technologies that are emerging at an ever-increasing pace. Hence, in a world increasingly dominated by scientific developments that come from a convergence of technologies in a wide variety of fields – dramatic disruptions will take place in areas like energy, manufacturing, transportation, telecommunications, health-care etc. – touching virtually every sphere of human life. The demand will be for a knowledge worker with multiple scientific skills - someone with, say, knowledge of biochemistry or crystallography or material sciences – who can work with a skilled IT programmer, an Artificial Intelligence specialist, a robotics engineer, etc.

It is the ability to understand, question and innovate that KVRSS would like to foster in the youth of today - to prepare them to face the challenges of tomorrow – a world that will require multi-skilled knowledge workers capable of learning new scientific skills throughout their career, possessing the ability to contribute while working in groups of multi-sector specialists in developing the technologies of the future.

Mr. Anil Kumar Kutty

Secretary's Report

The year 2016-17 saw the Society move forward in its activities and expand its reach. The Research Awards and Spark Innovation awards events were extended to the State of Kerala. We take pride in sharing that we are now able to reach and enable students to participate from all parts of South India. The response to the events by large participation in our programs also reiterates the good standing the Society has among the scientific community of these states. The infrastructure facilities at our KVRSS office premises have been developed to conduct most of the events. Another step forward has been the support we have been receiving from our awardees. Many of the research students who received awards from the Society have volunteered and supported us in various activities of the Society. We are very thankful to them as this strengthens our belief that the Society is moving in the right direction. Of course our esteemed judges comprising of scientists, teachers, educationists and subject experts are the ones who steer all our events and help us in our endeavor of science popularization and in the selection of right candidates for awards.

All the annual events of KVRSS 2016-17, (i) Science Quiz, (ii) School Talent Awards, (iii) SPARK Innovation Awards and (iv) Research Awards, were conducted successfully.

Another development is that schools and academic institutions have started seeking the help of the Society to conduct events to scientific thinking through various programs. To mark the occasion of National Science Day on 28th February 2017, the Society was called to conduct an event at Chinmaya Vidyalaya, Hyderabad. In collaboration with ISRO, events were conducted in a couple of schools. The Genetics Department of Osmania University invited the Society to be part of the Conference conducted to mark the Golden Jubilee Year of its establishment and present awards to selected students for their research presentations. Many other scientific organisations of repute, like University of Hyderabad, ISRO and DRDO, have come forward to support the Society in nurturing the awardee school children.

It was a great honor to our Society when the former Director of TIFR, Mumbai and now Professor Emeritus of TIFR Centre for Interdisciplinary Sciences (TCIS), Prof. Mustansir Barma visited our office along with Prof. Jayashree Ramadas, on 28th March, 2017 and applauded our efforts towards the popularization of science. TCIS offered to interact with awardee children, allow visits to their facility and conduct interactive sessions with their faculty. This kind of exposure to school children to high-end research institutions would be an important step towards generating their interest towards science.

A new look of the website has been uploaded which was well received by all. We are now planning to introduce online applications for most of our events, and thus keep up with the advances in technology.

Annual Science Awards Function 2016-17

The 17th Annual Science Awards Function is held to honour all the students who have performed commendably in various events conducted by the Society in the year 2016-17. School students who participated and got selected in Science Quiz, School Talent and SPARK Innovation competitions and research students selected in various basic sciences will receive cash awards and trophies.

Every year the Annual function of the Society is graced by an eminent Scientist who presents the Dr.K.V. Rao Memorial Oration for the year. Dr. D. K. Aswal, Director, National Physical Laboratory, New Delhi will present the Oration for this year. He will present a talk on “Metrology: The growth engine of National Science & Technology”.

The Vice Chancellor of University of Hyderabad Prof. Appa Rao Podile, will be the Chief Guest at the Annual Function.

Programmes 2016-17

Science Quiz Awards

The 11th Annual Interschool Science quiz was successfully conducted in two major cities of Telangana (Hyderabad and Warangal) and three major cities of Andhra Pradesh (Vijayawada, Visakhapatnam and Tirupati). Each city zone quiz consisted of a written preliminary round from which six teams were selected for the city finals.

Each city final consisted of various rounds and top two teams from these six teams were selected for the finals at Hyderabad. The change in the trend observed was that more girls had participated in the quiz and also made it to the finals.

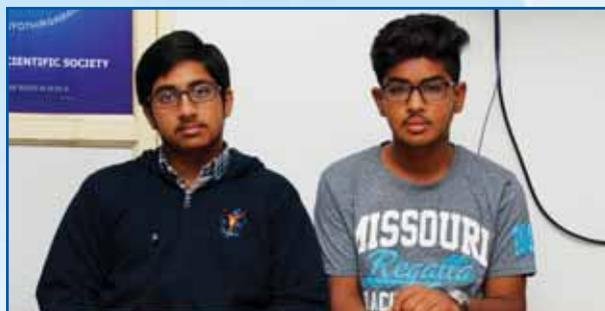
Zonal Winners



Winners | Warangal

Ms. L Stainy & Ms. U A Arsha

St. Peter's Central Senior Secondary School, Warangal.



Runners up | Warangal

Mr. P Ruthvik Adithya Reddy & Mr. Syed Imran Ahmed

Sparkrill International School, Warangal.



Winners | Tirupati

Mr. G Yashwanth & Mr. V J Vishnu
BVB's, S.V.V, Bhavan's Campus, Tirupati.



Runners up | Kurnool

Ms. K Asha Chandrika & Ms. S Meghana Reddy
St. Joseph's English School, N.R Peta, Kurnool.



Winners | Visakhapatnam

Mr. Vipul Shukla & Ms. Anu Bajwa
Navy Children School, Visakhapatnam.



Runners up | Visakhapatnam

Mr. Krishna Prakash & Mr. V Sai Kiriti
Vishaka Valley School, Visakhapatnam.



Winners | Vijayawada

Mr. E Siddharth Pavan & Mr. K Ramakrishna
Sri Chaitanya Junior College, Vijayawada.



Runners up | Vijayawada

Mr. B. Adithya & Mr. P. Chandan
N. St. Mathew's Public School, Vijayawada.



Winners | Hyderabad

Mr. Syed Mohammad Hashmi & Mr. Hussain Ahmed
Little Flower High School, Abids, Hyderabad.



Runners up | Hyderabad

Mr. Pratyush Dhal & Mr. Ravisri Valluri
The Hyderabad Public School, Begumpet, Hyderabad.

Finals

The final is an eagerly awaited event, both by the participants and the audience as the questions are designed to test the knowledge of the students. Conducted on 3rd December 2016 at Hyderabad, the quiz had various rounds which included a book round, buzzer round, pounce and bounce rounds, etc. It was an intense learning session. The team from Little Flower High School, Hyderabad and the Bharatiya Vidya Bhavan's Sri Venkateshwara Vidyalaya, Tirupati were in lead through out the competition and emerged as winners and runners up respectively.



Winners | Hyderabad

Mr. Syed Mohammed Hashmi & Mr. Hussain Ahmed
Little Flower High School, Abids, Hyderabad.



Runners up | Tirupati

Mr. G Yashwanth & Mr. V J Vishnu
BVB's, S.V.V, Bhavan's Campus, Alipiri, Tirupati.

Dr. R B N Prasad, Platinum Jubilee Mentor of Indian Institute of Chemical Technology, Former Chief Scientist & Head, Centre for Lipid Research was the Chief Guest. He presented a talk titled **"Tips for Healthy Eating"**, where he gave information on kind of food intake by the younger generation, and the effect on health thereon. He also informed about general myths about the various oils and how one should choose a proper diet. The talk was arranged as part of the quiz and formed one of the quiz rounds. The students had to answer questions based on the presentation.



"The scientist is not a person who gives the right answers; he is one who asks the right questions."
-Claude Levi-Strauss

"Science is the best idea humans have ever had. The more people who embrace that idea, the better."
-Bill Nye

School Talent Awards

The 14th School Talent Awards event was conducted at Vijayawada for students from Andhra Pradesh in co-ordination with APCOST on 4th December, 2016 and at Hyderabad for students from Telangana in co-ordination with TSCOST on 25th December 2016. A panel of eminent educationists and scientists not only evaluate their work but also guide them on the important points in both subject and presentation as these students proceed to the final presentations at National Children Science Congress. A total of six students, three from each state, were selected for scholarships.

The awardees for the year are:

Telangana State Council of Science & Technology



Ms. G Manasa
Devnar School for the Blind,
Hyderabad District.



Ms. P Sahithya
Ekashila Techno School,
Warangal District.



Ms. B Soniya
ZP High School,
Nalgonda District.

Andhra Pradesh State Council of Science & Technology



Ms. S Thabasum
Sri Gnana Saraswarthi School,
Anantapur District.



Ms. B Sowmya
Sister Stanislas School,
Kurnool District.



Mr. P Saleem Basha
Z P High School,
Y S R Kadapa District.

SPARK Innovation - Awards

The 6th SPARK event was conducted with more than 200 projects from various schools from Telangana, Andhra Pradesh, Karnataka, Tamil Nadu and Kerala. Twenty-six projects were selected for the competition held on 28th January, 2017. A panel of eminent scientists and science teachers judged the projects and a total of ten projects were short listed. The selections were made in two categories. The finals winners will be announced during the annual function.

Category 1 – Classes 7th to 9th



Mr. Eashan V Gupta & Mr. Anmol Mathur
Glendale Academy International, Hyderabad.



Mr. Aishik Paul
Defence Laboratories School,
VignyanKancha, Hyderabad.



Mr. S M Karthik Anand
C S Academy,
Coimbatore, Tamilnadu.



**Mr. Hyder Husain Arastu &
Mr. Omer Saleem Ahmed**
Glendale Academy International,
Hyderabad.



**Ms. Beebi Juheena Maliha,
Mr. Mathew Vincent & Ms. H Archana**
Christ CMI Public School, Kerala.

“To raise new questions, new possibilities, to regard old problems from a new angle, requires creative imagination and marks real advance in science.”

-Albert Einstein

Category 2 – Classes 10th to 12th



**Ms. G Vaishnavi Sharma,
Ms. T Nikitha & Ms. P Supraja**
BVB's Sri Venkateswara Vidyalaya, Tirupati.



**Mr. S Gowtham, Mr. R Dhinesh &
Mr. Aparajith Srinivasan**
D A V Public School, Chennai.



Mr. Jatin Rai Vohra & Mr. P Vishal
Little Flower High School,
Hyderabad.



Mr. Rishabh Dugar
Chinmaya Vidyalaya,
Hyderabad.



Mr. Chandan Perla
N S M Public School,
Vijayawada.

Dr. R. Subasri, Team Leader, Centre for Sol-Gel Coatings International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI), Hyderabad was the Guest of Honour of the event. She presented a talk titled, **“Science for Society”**. The talk was very interesting and inspiring to the students. She stressed the importance of innovation in science towards progress of the society.



Research Awards

The Research awards are given to scientists working in natural sciences under the broad fields of Physics, Chemistry, Biology and Mathematics to students below the age of thirty years and actively involved in research. The event was extended to include the universities and research institutions of Kerala also. We would like to thank the judges who go through this arduous task of going through the research papers and presentations of the candidates and help us select the candidates for awards.

The awardees will be announced during the annual function of the Society



“The true laboratory is in the mind, where behind illusions we uncover the laws of truth.”

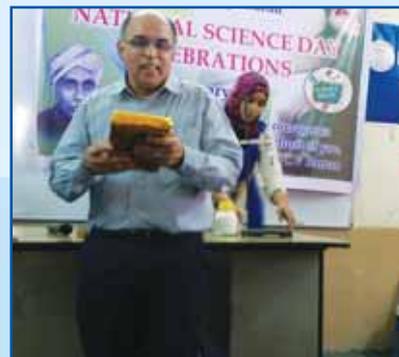
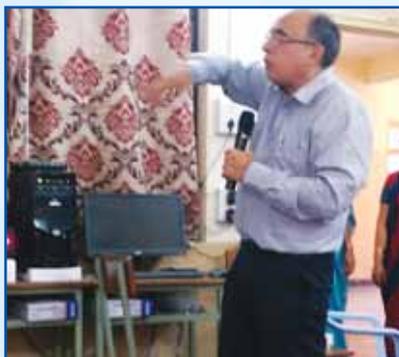
-Jagdish Chandra Bose

Eminent Supervisor Award

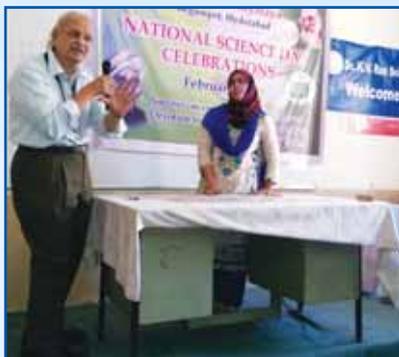
Many senior scientists from different institutions nominate their research students for presenting their research papers for Research awards. Students under some of these research supervisors have been presenting their research work and have also won awards. In the year 2016-17 Dr. V. Radha, Centre for Cellular and Molecular Biology will be presented with the award. Three students from her Research group have won the Research awards from our society till date and are now working in reputed research institutions.

National Science Day

- KVRSS organized a scientific talk and chemistry experiments demonstration at Chinmaya Vidyalaya, Begumpet as part of National Science Day activities on 28th February 2017 in their school.
- ❖ A talk by Prof. Syed Najamul Hasan, Head, Department of Mathematics, Maulana Azad University, Gachibowli and former head of Department of Astronomy, Osmania University, was presented on "Our Elegant Universe". It was a wonderful talk and the students enjoyed it very much as they learned about how the earth was formed and about its composition.



- ❖ Prof. Sai Prakash, along with Dr. Rattan Toorkey and their team demonstrated a number of chemistry experiments in such a manner that they not only made the concepts easy to understand but also ensured the students would always remember them. The puzzles and innovative experiments made the students amazed and wanting for more.





- National Conference in Osmania University: Osmania University, Department of Genetics & Biotechnology organized a National Conference on the occasion of the Golden Jubilee Celebrations of Department of Genetics. The national conference entitled “Molecular insights in Genetics and Biotechnology-Emerging Trends and Future prospects” was conducted on 27th and 28th February 2017 at Mekaster Auditorium, Osmania University. The Genetics Department invited KVRSS to be part of the national conference and enlisted our support for awarding the students, undergraduate, graduate and research, for their research presentations during the conference.



- On the eve of National Science Day celebrations on 28th February, ISRO / NRSA, Balanagar has conducted an outreach programme in various universities, colleges and schools. Technical lectures, demonstrations and other competitions were held in these academic institutions. As part of the programme a team of scientists from NRSA with the help of Dr. K. V. Rao Scientific Society have conducted “Just a minute (JAM)” contest in FIITJEE World School, West Maredpally for 6th, 7th and 8th class students. The topic was “What surprises you expect in future from ISRO”. Ms. C. Harita has represented from Dr. K. V. Rao Scientific Society and a total of 50 students have participated in this contest.

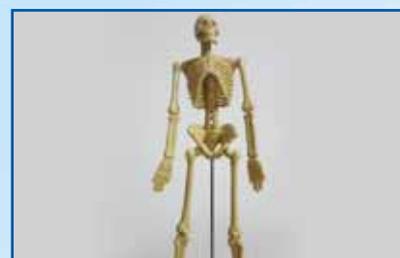


TCIS Hosts KVRSS Children Awardees

The Tata Institute of Fundamental Research (TIFR) is one of the premier centres of scientific research in India that works at the very cutting edge of world science. The TIFR Centre for Interdisciplinary Sciences (TCIS) is the first centre of the TIFR Hyderabad campus where research is being carried out on topics chosen across the life sciences, chemistry, physics and materials sciences. TCIS has come forward to host your team of awardee children at their Institute during the morning session on 27th May, 2017. The day will comprise of presentations by KVRSS team, science teachers and participant students as well as TCIS faculty members and Interaction session between TCIS faculty and our team. This will be followed by Laboratory visits. We are sure this will be a great opportunity for the students to have glimpse of the high quality research work being carried out in this institution and inspire them towards a great career in science. Our Society wishes to thank Prof. M. Barma and Prof. Jayashree Ramadas for supporting our cause and giving such a wonderful opportunity to the students.

Activities in Progress

- Science Laboratory: For school children to cater to the requirement for those schools in the vicinity that do not have the basic facility for science experiments. The infrastructure is being developed and we have already procured some apparatus and are in the process getting the rest of the material required for most of the experiments up to class 12.
- Talks by senior scientists, workshops in astronomy, physics and chemistry will also be held during summer months.
- A model of self-sustainability is being planned around the above ideas.



Recap 2015 -16

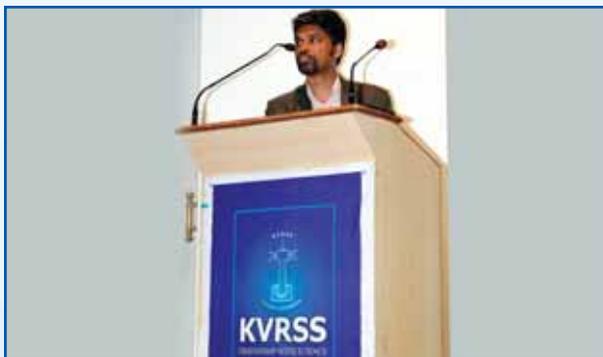
- The 16th Annual function of the Society was held on 11th June, 2016 at Birla Science Centre, Hyderabad. After the initial introduction about the Society, the Society paid its tribute to Prof. T. Sundararamaiah, former vice-president of the Society. A short film on the journey of the Prof. Sundararamaiah, a passionate scientist and persona of calmness, was presented highlighting his association with KVRSS. Prof. P. Sai Prakash, a close associate of Prof. Sundararamaiah, and currently Principal, Bausch and Lomb School of Optometrics, LV Prasad Eye institute, Hyderabad. He paid tributes to the departed soul and in his memory presented an interesting set of Chemistry demonstrations. He and his team conducted a number of chemistry experiments on stage to show the beauty of chemistry and all the children were excited and expressed that if chemistry is taught in this manner it seems very easy and interesting.
- The event was followed by Dr. K. V. Rao Annual Memorial oration which was presented by Dr. A. Ajayaghosh, Director, National Institute for Interdisciplinary Science and Technology, Thiruvananthapuram. He presented the talk on "Science and Technology: Empowering People and Nation". He spoke on the importance of Science in the progress of the nation and the steps being taken by the government towards this.



- The Chief Guest at the event was Dr. Mohan Reddy, Chairman and founder Cyient (earlier Infotech Ltd). He spoke on the responsibility of corporates in encouraging students to pursue science as their career and pledged his support to our Society in our mission of popularizing science.



- Prof. Rajadurai Chandrasekhar, school of Chemistry, University of Hyderabad was presented with the Eminent Supervisor Award. Among his students who applied for young scientists awards three of them have won awards from our society and are now working in reputed research institutions.



Young Scientist Awards

The following are the research students who received the awards in the Year 2015-16



Winner | Mathematics

Mr. Haripada Sau
Indian Institute of Science,
Bangalore.



Runner-Up | Mathematics

Ms. Ratna Pal
Indian Institute of Science,
Bangalore.



Winner | Physics

Mr. V Rakesh Kumar
ACRHEM,
University of Hyderabad.



Runner up-I | Physics

Mr. S Venkatesh
SSSIHL, Anantapur.



Runner up-II | Physics

Mr. Subrata Ghosh
IGCAR, Kalpakkam, Tamilnadu.



Winner | Chemistry

Mr. Sudip Mukherjee
IICT, Hyderabad.



Runner up-I | Chemistry

Ms. R Kavitha
Bangalore University, Bangalore.



Runner up-II | Chemistry

Dr. Paulami Manna
University of Hyderabad.



Winner | Biology

Mr. B Kondalarao
IISc, Bangalore.



Runner up-I | Biology

Ms. G Ramasatyaveni
IICT, Hyderabad.



Runner up-I | Biology

Mr. S Praveen Joseph
LV Prasad Eye Institute,
Hyderabad.



Runner up-II | Biology

Mr. Shabuddin Shaik
Acharya Nagarjuna University,
Guntur.



Dr. K. V. RAO SCIENTIFIC SOCIETY

DONATION FORM

Dear Sir / Madam,

I would like to Donate for the Corpus / General / Specific program of the Society (Mention programme name).

Name: (Prof. / Dr. / Ms. / Mr. / M/s.¹): _____

Parent(s) / Spouse Name : _____

Age : _____

Qualifications: _____

Designation: _____

Organization: _____

Address for correspondence: _____

Phone: (O) _____ (R) _____

Mobile: _____ Fax: _____

Email: _____

PAN² _____

Mode of Payment: _____ Bank Transfer/Cash/DD/Cheque

DD/Cheque No.³ _____ Date: _____ Bank: _____ Amount Rs. _____

I have read the terms and conditions of the rules and regulations of the Society and abide by the same. The above information provided is correct.

Date:

Signature of Donor

Place:

Name:

NOTE:

¹ In case of Corporates / Firms / Societies, please attach the resolution of authorization and also the Memorandum of Articles of Association / Bye-laws / Rules & Regulations from your organization.

² Please attach the attested photocopy of the PAN Card.

³ The complete form along with the amount by DD/Cheque in favour of "Dr.K.V.Rao Scientific Society" payable at Hyderabad to be sent to: Dr. K. Ratna, Secretary, Dr. K.V.Rao Scientific Society, 8-3-169/84, Siddhartha Nagar, Vengal Rao Nagar P.O., Hyderabad – 500 038.

-The Society is registered under the Public Societies Registration Act

-The Society has 80G exemption under Income Tax Act in perpetuity.

-The Society is also registered under the FCRA Act and is eligible for foreign donations.

The details of the tax exemptions are available on our website: www.kvrss.org





Dr. K. V. RAO SCIENTIFIC SOCIETY

Dr. K. V. Rao



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About the Orator

Dr. Dinesh K Aswal, Director of CSIR-National Physical Laboratory (CSIR-NPL), New Delhi, is the Orator for the Memorial Oration 2016-17.

Dr. Aswal joined Bhabha Atomic Research Center (BARC) in 1986 and served as the Secretary of Atomic Energy Education Society, Mumbai and as Head of Thin Films Devices Section, Technical Physics Division, BARC, Mumbai.

Dr. D. K. Aswal obtained M.Sc. in Physics from Garhwal University and Ph.D. in Physics from Mumbai University and subsequently carried out post-doctoral research work at Research Institute of Electronics, Hamamatsu, Japan. His current area of research interests includes physics of organic films and their applications for solar cells, conducting polymer films for flexible electronics, thermoelectric power generators and gas sensors & electronic nose. He has edited three books, contributed 16 book chapters and published over 200 peer reviewed journal papers.

He had visiting professor and scientist positions at several international institutes and universities. He is a recipient of several national and international awards including Distinguished Faculty Award of Homi Bhabha National Institute (HBNI), Materials Research Society of India (MRSI) Medal, Homi Bhabha Science and Technology Award, DAE-SRC Outstanding Research Investigator Award, Paraj: Excellence in science award, JSPS fellowship (Japan), BMBF-fellowship (Germany), EGIDE-fellowship (France).

About the Chief Guest

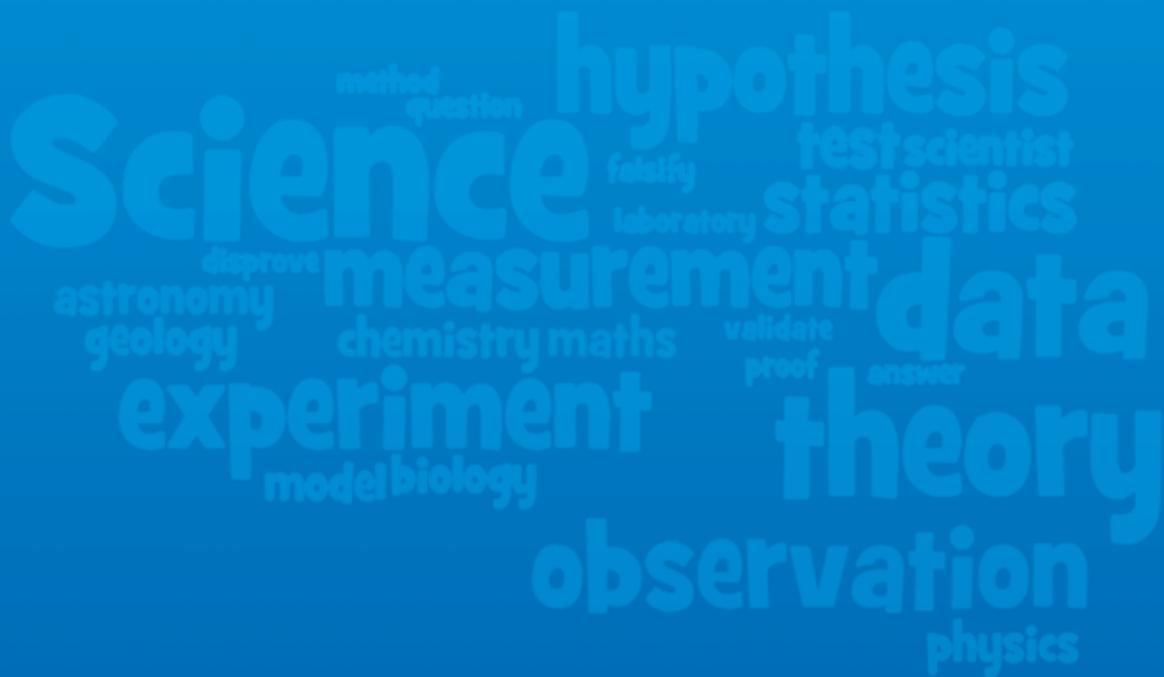
Prof. Appa Rao Podile, Vice-Chancellor of University of Hyderabad, Hyderabad, is the Chief Guest of the Annual Science Awards Function 2016-17.

Prof. Appa Rao obtained MSc and Ph.d from Sardar Patel University and then worked as post-doctoral fellow at Institute of Botany, Academia Sinica, Taipei, Taiwan. He was a Visiting Scientist at Institute of Molecular Biology, Academia Sinica, Taipei, and Department of Plant Biochemistry and Biotechnology, University of Munster, Germany.

He joined University of Hyderabad as faculty in Plant Sciences, School of Life Sciences in 1989. He became the Vice Chancellor of University of Hyderabad in 2015.

His area of research includes Non-Chemical Approaches for Plant Disease Management and Molecular Plant Microbe Interactions. He published about 85 research papers and has guided many PhD students.

Prof. Appa Rao is a recipient of a number of awards which includes Millennium Plaque of Honour by the Indian Science Congress Association, 2017 and is a member of various academies of sciences.



Dr. K. V. RAO SCIENTIFIC SOCIETY
FRIENDSHIP HEIGHTS

8-3-169/84, Siddhartha Nagar, Vengal Rao Nagar P.O. Hyderabad – 500 038.

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