



# **Dr. K.V. RAO SCIENTIFIC SOCIETY**

## **Dr. K.V.RAO Annual Memorial Oration & Research Awards**



**Dr.K.V.Rao**  
(1920-2002)

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## The Executive Committee

- Dr.B.V.S.R.Murthy - President  
He retired from Geological Survey of India. A close associate of Dr.Rao at GSI.
- Prof.T.Sunderaramiah – Vice President  
Retired Professor, Chemistry Department, Osmania University, Hyderabad
- Dr.K.J.R.Murthy – Secretary  
Senior Consultant, Chest Physician & Director, DOTS Programme, Mahaveer Hospital, Hyderabad.
- Dr.K.Ratna - Joint Secretary  
Doctorate, I.I.T.Delhi
- K.A.Sastry – Founder Member  
Director, KSK Energy Ventures Ltd., Hyderabad and son of late Dr.Rao

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## About Dr.K.V.Rao

Dr.K.V.Rao was born on 21st March 1920. He had his earlier education at Rajahmundry and Hyderabad in the State of Andhra Pradesh, India. He did his post graduation in Chemistry and research for his D.Sc. degree at the Banaras Hindu University under Prof. S.S.Joshi on "Active Nitrogen", an intermediary in the synthesis of Ammonia.

Dr.Rao's active Scientific career started in 1947. He worked in the Department of Mines in the erst while Nizam state (1947 - 1952) and in the Geological Survey of India (1952 - 1978). Dr.Rao's work in the Department of Mines in the Nizam State and later in the GSI related to the chemical analysis of diverse Geological materials and the Geochemistry of rocks, ores, water, etc. After retirement he joined Birlas (1978 - 1985) and established the Birla Archeological and Cultural Research Institute, a research institute for study of Archeological Monuments. Later he was interested in the environmental problems in and around Hyderabad.

Dr.Rao's research contributions are many and are on various subjects. Most important of them was his work on fluoride bearing waters in Andhra Pradesh, Rajasthan and Gujarat. The work related to incidence of fluorosis, defluoridation of waters by Serpentine (a naturally occurring mineral rejected as waste in asbestos mines), designing community defluoridation plants and portable family kits in fluorosis endemic villages.

His defluoridation work influenced medical specialists to successfully use serpentine as a medicine for the treatment of human fluorosis for which no medicine was known till then. Dr.K.J.R.Murthy is one of those pioneering physicians who did this work. Under Dr.Rao's influence work on fluorosis had been carried out in more and more scientific departments leading to the organisation of a multidisciplinary "Symposium on Fluorosis" in 1974.

Dr.Rao's work in Birla Archeological and Cultural Research Institute was stupendous. He started a research lab from scratch for chemical analysis of complex archeological materials. His studies covered many archeological materials such as stone sculptures, wooden carvings & frames, temple bells, palm leaf books, metallic coins, dating the period of archeological excavations using bone ash obtained from archeological excavations .

Dr.Rao studied the effect of SO<sub>2</sub> and NO<sub>x</sub> on marble, environmental pollution on Taj Mahal, Charminar etc. and weathering profiles and preservation of monuments. Gomateswara Statue at Sravana Belahala (Karnataka), Buddhist monuments in Sankaram, Madhukeswara Temple at Mukhalingam, Thousand pillar Temple at Hanumakonda, the famous Ramappa Temple near Warangal (in Andhra Pradesh ) are some such monuments studied. His old Geologist friends collaborated with him in these later studies. He not only published papers in Indian and international journals of repute but started publication of a bulletin and later Journal of Archeological Chemistry.

Thus, throughout his scientific career, Dr Rao's work was splendid by any measure. His contributions are too many to narrate for any one of those who watched him at close quarters.

Dr.Rao was a man with laudable human qualities and feelings. Dr Rao was an intellectual with philosophical bent of mind. He attended some talks by Jiddu Krishnamurti in January 1974 and his interest in JK's teachings made him start a club by name "Listeners Club" with the objectives to provide a forum/avenue for the interested citizens of twin cities to hear his talks.

### **The Society**

Dr. K.V.Rao Scientific Society was founded in 2001 by forming a corpus from the donations from friends and family of Dr.K.V.Rao. The passion of Dr.Rao by taking part actively in promotion and encouragement of young scientists in pursuit of their research activities has been instrumental in bringing about this society.

The aims and objectives of the Society are to:

- ◆ Undertake programs for advancement of research in the field of Chemistry and/or any branch of science where principles of Chemistry play a part.
- ◆ Assist research students either at doctoral or post doctoral level by ways of funds or equipment.
- ◆ Capacity building of local scientific talent
- ◆ An Annual Oration of Original Scientific Work by a Senior Scientist.
- ◆ Promoting Scientific temper in students at school level by way of research projects.

The Society has decided to honour the work of young scientists under the age of 30 years by presenting Annual Research Awards. The Research award includes a Silver trophy and a Cash Award of Rs.10,000/= only to one promising Young Scientist and Silver Trophies for two more candidates selected from final presentations. In order to have transparency in the selection, a panel of judges comprising of eminent scientists and personalities from various specialisations screen the research work in different stages for final award. The names of the candidates selected for the awards are announced on the day of the annual function.

The Society has also decided to honour school children for their scientific temper. In co-ordination with Andhra Pradesh State Council of Science and Technology (APCOST), the Society selects six students for these awards.

It is hoped that the aim and objectives of the Society, will be largely fulfilled in order to carry out the primary efforts of Dr.K.V.Rao in this direction during his days of active research, who is well known for his scientific temper, even in adverse situations, and for his forthright and hardworking nature.

## Annual Oration

The Society invites an eminent Scientist to deliver a memorial oration each year and presents the distinguished guest with a silver trophy. We are honoured to have the following personalities presenting the orations in our functions.

Year 2001: Prof.K.Subba Rao, Head of Biochemistry Department, School of Life Sciences, University of Hyderabad.

Year 2002: Dr.Seyed E.Hasnain, Director, Centre for DNA Fingerprinting and Diagnostics, Hyderabad.

Year 2003: Dr.K.V.Raghavan, Director, Indian Institute of Chemical Technology, Hyderabad.

Year 2004: Dr.K.P.C.Gandhi, Director, Andhra Pradesh Forensic Science Laboratory, Hyderabad.

Year 2005: Padma Shri Dr.Gullapalli N.Rao, Distinguished Chair of Eye Health, L.V. Prasad Eye Hospital, Hyderabad

## Annual Awards and Selection Procedure

Dr.K.V.Rao Scientific Society had invited Applications for the Annual Research Awards for the year 2005 from young research scientists working in the field of **Chemistry** and allied sciences which include **Biochemistry, Pharmaceutical Sciences, Genetics, Medicine, Chemical membranes, Agriculture, Nutrition, Geochemistry, Plant Chemistry, Marine Chemistry, Industrial Chemistry, Cellular Chemistry, Environmental Sciences, Microbiology, Polymers**, etc.

### ➤ **Eligibility Criteria** for the candidates:

The Candidate applying for the Research Award :

- ❖ Should have carried out or should be carrying out research work in any of the universities/deemed universities/other research institutions situated in the state of Andhra Pradesh

**and/or**

- ❖ Should have been registered for the Ph.D. degree in any of the Universities/deemed universities in Andhra Pradesh.
- ❖ Should have completed at least one year Research after the date of registration.
- ❖ Should be under 30 years as on 31/12/2004.

### ➤ **Procedure for Evaluation of the Research Work of the Candidate**

- ❖ The candidates are required to make a presentation of their work before another panel of judges (a total of 10 minutes is given for each presentation another 5 minutes for question/answer session).

- ❖ A panel of judges appointed for evaluation shall select three candidates for the awards presentation from the preliminary and final round of presentations.
- ❖ The panel of judges shall announce the name of the three Candidates selected for the awards on the day of the annual function.

The decision of the panel of judges is final in recommending the candidates for the Research awards.

➤ **Awardees**

- Prof. G.Srimannarayana: Osmania University
- Prof. B.Sethuram, Osmania University
- Prof. G.David Krupanandam, Osmania University

delivered the first Dr.K.V.Rao Memorial Oration. Important dignitaries present at the function were Shree.P.C. Mandal, Director General, GSI, Kolkata, Shree Vara Prasad Reddy, Director, Shanta Biotechnics Ltd., Prof.K.V.Raghavan, Director,IICT.

The judges for this second annual function were:

- Prof.B.Sethuram, Osmania University
- Prof.Jaya Thyagaraju, Osmania University
- Dr.Amitabha Chattopadhyaya, C.C.M.B.
- Prof.Srimannarayana, Osmania University
- Prof.J.Ananthaswamy, Osmania University
- Mr.M. Krishnaiah, Industrialist

**Third Annual Function, March 21, 2003.**

was the Oration speaker. Dr.G.Shyam Sunder, Vice Chancellor, NTR University of Health Sciences, Vijayawada, Dr.B.Siva Kumar, Director, National Institute of Nutrition, Hyderabad were the Guests of Honour at this function.

The judges for the awards:

- Prof.B.Sethuram, Osmania University
- Dr,Ch.Mohan Rao. C.C.M.B.
- Dr.J.Gowrisankar. C.D.F.D.
- Dr.N.Madhusudhan Rao, C.C.M.B.
- Dr.J.Arunachalam, BARC, NFC.
- Prof.T.Sunderaramiah, Osmania University

## **Fourth Annual Function, March 29, 2004**

, was the Oration speaker. Prof.Kakarla Subba Rao, Director, Nizam's Institute of Medical Sciences, Hyderabad, was the Chief Guest at the function. Prof.J.M.Naidu, Member-Secretary, Andhra Pradesh State Council of Science & Technology, Hyderabad was the Guest of Honour.

The judges for the Research Award, preliminary round were:

- Dr.K.V.A.Ramiah, University of Hyderabad
- Prof.P.K.Dubey, JNTU
- Prof.T.Sunderaramiah, Osmania University
- Prof.S.Satyanarayana, Osmania University
- Prof.Ch.Anajaneyulu, Osmania University

and the judges for the final round of selection were:

- Dr.T.Malati, Nizam's Institute of Medical Sciences
- Prof. P.V.Subba Rao, Andhra University
- Prof.B.Sethuram, Osmania University

## **Fifth Annual Function, to be held on 1<sup>st</sup> April , 2005**

, is the Oration speaker this year. Padma Bhushan Dr.Varaprasad Reddy, Managing director, Shanta Biotechnics Private Limited, Hyderabad will be the Chief Guest at the function.

The judges for the preliminary round were:

- Dr.T.Malati, Nizam's Institute of Medical Sciences
- Dr.K.V.A.Ramiah, University of Hyderabad
- Prof.K.Veera Reddy, Osmania University
- Prof.T.Sunderaramiah, Osmania University

and the judges for the final round of selection were:

- Prof. Shobanaditya, Osmania University
- Prof.B.Sethuram, Osmania University
- Dr.M. Raghunath, National Institute of Nutrition

## **Young Scientist Award Competitions**

### **Research Awards - 2001**

The Society in its first year of inception received only a small number of applications for the Research Award. Three candidates selected for presentation of their papers:

Mr Ch.Venkata Reddy, IICT, Hyderabad. He spoke on "The First Example of Activation of Molecular Oxygen in Ni-Al Hydrotalcite : A Novel Protocol for Selective Oxidation of Alcohols".

Mr.Ram Thaimattan, Hyderabad University. His paper is entitled "Organic Network Structures : Crystal Engineering & Supramolecular Synthesis".

Mr. J. Krishna Murthy, Research Fellow from IICT, Hyderabad. His topic of presentation is entitled "Catalytic Hydrodechlorination of Dichlorodifluoro ethane: Development of New Generation Pd based Catalysts".

**Mr.Ch.Venkata Reddy of IICT**, Hyderabad was selected for the research award. The other two candidates were given merit certificates.

### **Research Awards – 2002**

The society had received a number of applications for the Research Award for the year 2002. A preliminary presentation by the candidates was conducted on 2nd March, 2002 to select three candidates by a panel of judges for the final presentation of their research papers in presence of the august audience. The selected candidates were :

Ms.Shailly Varma, Senior Research Fellow from the department of Biochemistry, School of Life Sciences, University of Hyderabad. She spoke on "Bioelectrochemistry of Enzyme Modified Glassy Carbon Paste Electrodes".

Mr.M.Radha Kishan, Research Fellow from Reaction Engineering Lab of IICT, Hyderabad and his paper is entitled "Molecular Sieves to Macrocycles and Macrocycles to Molecular Sieves".

Mr. Palas Gangopadhyay, Research Fellow from the School of Chemistry, University of Hyderabad. His topic of presentation is entitled "Supramolecular Assembly of Molecular Materials: Induction, Enhancement and Measurement of Second Harmonic Generation".

**Mr.Radha Kishan Motukori of IICT**, Hyderabad recieved the cash award and the silver trophy for this year. Merit certificates were given to Ms.Shailly Varma and Mr.Palas Gangopadhyay .

### **Research Awards – 2003**

Preliminary presentation by the candidates was conducted on 27th February, 2003 to select three candidates by a panel of judges for the final presentation of their research papers in presence of the august audience on 21st March, 2003. The selected candidates were :

Mr.G.Ramesh, Research Fellow from Organic Division of IICT, Hyderabad. He spoke on "Design, Synthesis and Biological Activity of DNA interactive Pyrrolbenzodiazepine Antitumour Antibiotics and New Synthesis Strategy for Arylamino podophyllotoxin Congeners".

Mr.M.Sateesh, Research Fellow from Inorganic Chemistry Division of IICT, Hyderabad and his paper was entitled "Bifunctional Catalysis for C-C and C-N Coupling Reactions".

Ms. J.Subbalakshmi, Research Fellow from the School of Chemistry, University of Hyderabad. Her topic of presentation was entitled "Linear and Non-linear Optical Properties of Novel Organic Molecular Materials - Based on Diaminodicyanoquinodimethanes".

**Ms.Subbalakshmi of University of Hyderabad** received the cash award and the silver trophy for this year. Merit certificates were given to Mr.Sateesh Madhi and Mr. G.Ramesh

### **Research Awards – 2004**

The response for the Research awards was very good that year and had prompted us to conduct the preliminary presentations for two days, on 12<sup>th</sup> and 13<sup>th</sup> of March, 2004. We were also happy to note that the quality of the research papers had been quite high. The judges found the selection very tough. So the committee has decided to hold a final presentation of eleven candidates before selecting the three candidates for awards. The candidates selected for the awards were:

I.Jayakumar, Centre for Environment, Jawaharlal Nehru Technological University, Hyderabad. He spoke on "A Client / Server Based Continuous Air Pollution Monitoring for Episode Warning in Urban Environment".

K.V.S.Ranganath, Research Fellow, Inorganic & Physical Chemistry, Indian Institute Chemical Technology, Hyderabad. His paper was entitled "Bifunctional Nanocrystalline MgO for Epoxy Ketones via Claisen-Schmidt Condensation-Asymmetric Epoxidation Reactions"

M.Satish Kumar, Research Fellow, Department of Biochemistry, National Institute of Nutrition, Hyderabad. His topic of presentation was "Effect of Dicarbonyl Induced Non-enzymatic Browning on Molecular Chaperone Function of Eye Lens alpha- crystallin: Implications in Cataractogenesis

**Mr. K.V.S.Ranganath, IICT, Hyderabad** received the winner's Silver trophy and the cash award. The other two candidates were given the runner up silver trophies.

### **Research Awards – 2005**

Continuing the trend in 2004, the preliminary and final presentations were conducted on January 26, 2005 and March 12, 2005 respectively. The names of the selected candidates shall be announced on the day of the annual function.

### **Research Activities for School Children**

Apart from these functions for the research students, the Society also started conducting a programme for School Children in collaboration with APCOST (Andhra Pradesh State Council of Science and Technology). APCOST selects around thirty students at state level to participate at National level of National Children Science Congress, an event conducted annually by Department of Science and Technology. The Society has its own evaluation of

these thirty projects, in an effort to encourage Scientific temper at school level and also to adopt a few projects of relevance to the society at large. The Society proposes to conduct the programmes of this nature annually.

### **School Talent Awards, 2004**

The Society conducted the first programme on 24<sup>th</sup> December, 2003 at Sherwood Public School, Hyderabad. The programme was a big success and liked by one and all. The judges for these awards were:

1. Dr.Dinesh Kumar, National Institute of Nutrition
2. Dr. L. Srinivasa Rao, President, Dr.A.S.Rao Awards Council
3. Dr Sridhar Rao, Scientist, C.C.M.B
4. Dr T Sundararamaiah, Vice President of the Society
5. Mr.Seshu, Sherwood Academy of Education
6. Mrs Anita, Sherwood Academy of Education
7. Dr. Niranjan, Child Psychologist, Niloufer Hospital.
8. Dr.Gauri, Child Psychologist, Niloufer Hospital
9. Dr. Niranjan Reddy, Child Psychologist.

The Society selected six candidates for the awards, they are:

1. J.Ravi Chandrika (ZPHS, Nellore District)
2. A.Subbaiah (MPUP School, Krishna District)
3. A.Shanti (SKVTEM High School, Rajahmundry)
4. Y.Rahul Krishna (Triveni School, Khammam District)
5. Kum. Kadambari Sridhar (DAV Public School, Hyderabad)
6. Kum.Afreen Sharief (DAV Public School, Hyderabad)

### **School Talent Awards, 2005**

The second programme was conducted at Vijayawada on 23<sup>rd</sup> December, 2004. The judges for the event were:

1. Dr Sridhar Rao, Scientist, C.C.M.B
2. Dr T Sundararamaiah, Vice President of the Society
3. Mr.Seshu, Sherwood Academy of Education
10. Mrs Anita, Sherwood Academy of Education
11. Dr. Niranjan, Child Psychologist, Niloufer Hospital.
12. Dr.Gauri, Child Psychologist, Niloufer Hospital
13. Dr. Niranjan Reddy, Child Psychologist.

The students selected for awards this year are :

1. C.P.Varun, SFS School, Seethammadhara, Visakhapatnam
2. Soumya Iyengar, DAV Public School, Safilguda, Hyderabad
3. Jatin Puri, RBVRR High School, Mubarak Nagar, Nizamabad
4. P.Raveendra, MPUP School, Bhattuvari Palem, Kaligiri, Nellore
5. K.Tejaswini, J.M.J.High School, Nakkalakutta, Hanumakonda, Warangal

6. Bhushra, St.Josephs High School, Near Fly Over,Guntur

The Society is also planning to take up some of the projects done by the students and take the work forward.

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