



# ACADEMY OF CHEMISTRY TEACHERS

Thiruvananthapuram, Kerala

Reg No: 774/91

## **ANNUAL REPORT 2011-2012**

Dear Friends

I am happy to present the Annual report of Academy of Chemistry Teachers (ACT) during the year 2011-2012. The annual general body of ACT was held at University college, Trivandrum on 5th May 2011. Prof G. Rajeev and Dr. Asa Panicker were unanimously elected as the President and Vice President of ACT respectively.

The following persons are the office bearers of ACT for the period 2011-2012.

*President*

**Prof. G. Rajeev**

(University College, Thiruvananthapuram)

*Vice President*

**Dr. Asa Panicker**

(HHMSPB College College, Neeramankara)

*General Secretary*

**Dr. I.G. Shibi**

(S.N. College, Chempazhanthy)

*Treasurer*

**Prof. B. Ramesh Kumar**

(NSS College, Pandalam)

*Secretary*

**Dr. Jadu Samuel** (Mar Ivanios College,

Thiruvananthapuram)

*Secretary*

**Dr. Manohar D. Mullasseril**

(Fatima Mata National College, Kollam)

*Secretary*

**Dr. Harikumara Varma**

(S.D. College, Alappuzha)

### **MEMBERS, EXECUTIVE COMMITTEE**

Prof. G.Rajeev (University College,

Thiruvananthapuram)

Dr. M.R. SudarsanaKumar (MG. College,

Thiruvananthapuram)

Prof. S. Shajan (St. Stephens College,

Pathanapuram)

Dr. C.R. Kalakumari (S.N. College, Varkala)

The Annual general body meeting approved the report and the accounts for the year 2010-2011, presented by the General Secretary and Treasurer respectively. A Farewell meeting was organized to honour the retiring faculty members on the same day. An executive meeting of ACT was held on the day to plan different programmes to be carried out during the year 2011-2012.

Academy of Chemistry Teachers (ACT), a registered and recognized professional organization of Chemistry Teachers in Kerala, has been actively engaged in promoting the spirit and relevance of chemistry and assisting students and teachers in updating their knowledge in the emerging frontiers of the discipline, since its inception in 1991. As you are aware, ACT has been conducting very realistic and useful programmes and year after year, the relevance of ACT has been becoming sounder. Imbibing the spirit of the International Year of Chemistry (IYC 2011), ACT has been diligent in organizing several programmes on various themes throughout Kerala.

ACT organized a formative meeting to discuss and finalize future programmes of IYC 2011 in Kerala, on 5<sup>th</sup> May 2011 at the Department of Chemistry, *University College, Trivandrum*. Dr. C.G. RAMACHANDRAN NAIR chaired the meeting. The meeting was attended by eminent persons from KSCSTE, NIIST, IIESER, VSSC, CESS, KSSP and other major educational and research institutions and Organizations. Teachers and students from various colleges also participated in the meeting. The meeting discussed and finalized future programmes for the celebrations of IYC 2011 in Kerala. The meeting ushered in a new enthusiasm among the chemistry fraternity in Kerala.

An Exhibition on "The Life and works of Madame Curie" was inaugurated by G. Arul Jerald Prakash Director, Kerala State Science & Technology Museum on 13 October 2011. The

exhibition was organized by *Breakthrough Science Society* in association with ACT. *Breakthrough Science Society* in association with ACT organized the exhibition in many colleges and schools. At this moment let us express our sincere gratitude to *Breakthrough Science Society* for inculcating scientific temperament among students through this exhibition.

The Department of Chemistry, University College, Thiruvananthapuram in association with Academy of Chemistry Teachers organized a spectacular 'CHEMISTRY EXHIBITION,' from 06-12-2011 to 08-12-2011 with a view to enlighten the younger generation on the Remarkable achievements of Chemistry. The exhibition was inaugurated by **Dr. K. P. Dharmaraja Iyer**. The exhibition displayed many fascinating experimental chemical magic which have attracted thousands of school and college students. The entire students and faculty of University College, Thiruvananthapuram deserves compliment for their successful effort. A quiz programme focusing the Higher Secondary Students and a talk on "Kitchen Chemistry" by **Dr. CP Aravindakshnan** was also held. The whole academic events were sponsored by UGC.

Academy of Chemistry Teachers collaborated with The Department of Chemistry, Fatima Mata National College, Kollam to organize a one day Seminar On *RECENT TRENDS IN SUPRAMOLECULAR CHEMISTRY* on 08-11-2011. **Dr M.R. Sudarsanakumar, M.G. College and Dr. K.G. Sreejalekshmi**, Asst. Professor, IIST, Trivandrum presented papers. The programme was sponsored by Kerala State Council for Science, Technology and Environment.

Academy of Chemistry Teachers & The Department of Chemistry, T K M College of Arts and Science, Kollam jointly organized a one day Seminar on Stereochemistry on Tuesday, 20th December 2011. **Prof P.K. Viswanathan** handled various sessions. PG students of various colleges attended the seminar.

The Department of Chemistry, Sree Narayana College, Kollam organized, a quiz programme and essay writing competition focusing the UG/PG Chemistry Students on 07-12-2011. On 09-12-2011 **Prof RVG Menon** and **Prof MS Gopinadhan** delivered Dr K. Sundaresan Memorial talk. M.Sc. Chemistry golden jubilee meet of all former PG students and teachers of Chemistry during 1961-2011 was held on 10-12-2011. ACT cooperated with the programmes.

The Department of Chemistry, DB College, Sastamkottah in association with ACT organized a Chemistry Exhibition. S.N College for Women organized IYC celebrations in association with ACT. Dr. Mr. Sudarsanakumar, Dr. Dinesh Babu and Dr. Saji Alex organized many programmes in their college and have participated in many educational institutions as resource persons.

The observance of the International Year of Chemistry (2011) took a new turn in Kerala by the rendition of a Kathaprasangam based on the life of Marie Curie by an active member of ACT, Dr. Vasanthakumar Sambasivan. This venture was supported by the Academy Of Chemistry Teachers (ACT). The story of Marie's sacrificial dedication of life to science was being scripted by Dr. Vasanthakumar. He staged the Kathaprasanga in many colleges and schools and won wide acclaim.

*Academy of Chemistry Teachers (ACT)* & PG and Research Department of Chemistry Mahatma Gandhi College, Thiruvananthapuram, jointly organized a Chemistry Quiz Competition For High School Students (Thiruvananthapuram district level) on 16 NOVEMBER 2011. Prof. T.N Manoharan was the quiz master. The competition was Co-sponsored by Kerala State Council For Science Technology and Environment Council (KSCSTE).

In connection with IYC 2011 celebrations Dr. I.G. Shibi delivered talks on various topics in NSS College, Neeramankara, St. Cyrils College, Adoor, Government Arts College, Meenchanta, Calicut, S. N College, Punalur, NSS College, Kottiyam, St. Johns Model Higher Secondary School, Nalanchira, Christ Nagar International School, Trivandrum, S.N. College, Kollam etc.

A meeting was held at CSIR Science Centre, New Delhi on 24 June 2011, to discuss the details regarding the launching of a new programme under The Open Source Drug Discovery (OSDD) program of CSIR, New Delhi. **Dr. Shibi I.G.** attended the meeting and expressed the willingness of ACT in cooperating with the national mission of OSDD. **Prof. Samir K. Brahmachari**, Chief Mentor OSDD & DG CSIR and **Zakir Thomas**, Project Director OSDD

appreciated chemistry teachers under the banner of ACT for enthusiastically involving in the activities of OSDD. The meeting decided to launch Chemistry Outreach Program to create an Open Chemical Library mainly to encourage M.Sc. as well as Ph.D. students at universities/institutes across the length and breadth of the country to carry out research in the area of medicinal chemistry and drug discovery against various infectious diseases like TB and malaria. The program provides a prominent niche for MSc students of Chemistry, by which the students get ample exposure to advanced research environment during their Dissertation work. The initiative is an enthusiastic move to impart greater momentum to chemistry education in our country during the International Year of Chemistry, IYC 2011. The idea is that, as part of M.Sc. Dissertation work, students undergo training in research and get the know how to carry out the modern synthetic reactions that they study in their courses and thus get encouraged to pursue their career in research.

Each student has to make few compounds; learn their purification by chromatography and characterization by NMR, mass spectra, etc. The synthesized samples are to be sent to nearby CSIR labs for analysis free of cost. Students will then submit these molecules to OSDD and pure compounds as NCEs can be stored in nearby CSIR labs under suitable conditions with proper labeling etc. CSIR also expressed its willingness to fund the purchase of chemicals, glassware and other minor equipments for each college coming forward to participate in this program.

In order to formulate strategies to implement the OSDD outreach program for MSc (Chemistry) students in Kerala, a meeting was convened by **Dr. Ibnu Saud** at M.G. University, Kottayam, on 02.07.2011. **Dr. T.S. Anirdhuan, Dr. K. V. Radhakrishnan, NIIST, TVM and Dr. I.G. Shibi** attended the meeting. An action plan was framed for the successful implementation of the OSDD Outreach program in Kerala.

A workshop on “*Advances in Organic Synthesis and its Application in Drug Discovery*” was organized at National Institute of Interdisciplinary Science & Technology, Thiruvananthapuram, KERALA on 21<sup>st</sup> & 22<sup>nd</sup> July 2011. The programme was organized by ACT in association with CSIR - New Delhi and National Institute of Interdisciplinary Science & Technology, Thiruvananthapuram. **Dr. K.V Radhakrishnan** was the Academic coordinator, and **Dr. Suresh Das**, Director, NIIST, Trivandrum inaugurated the workshop. **Dr. D. Ramaiah**, NIIST, Trivandrum, **Dr. S. Prathapan**, CUSAT, **Dr. K. M. Sureshan**, IISER, TVM, **Dr. L. Ravishankar**, NIIST, TVM, **Dr. K. V. Radhakrishnan**, NIIST, TVM, **Dr. Ibnu Saud**, MG Uty, Kottayam were the resource persons. Teachers throughout the state attended the two day workshop. Let me express our sincere gratitude to CSIR–NIIST, Trivandrum for facilitating an opportunity for the college teachers and M.Sc. students of Chemistry to get enlightened about the importance of the M.Sc. Chemistry Outreach Program of the Open Source Drug Discovery (OSDD) of CSIR, New Delhi, by holding the Workshop.

In Kerala, Academy of Chemistry Teachers (ACT) took up the humble mission of OSDD’s scientific march forward further with determination, to materialize its socio-scientific vision. In order to launch the programme a National workshop was organized by NIIST (CSIR) in association with ACT On 1st & 2nd March 2012.

The topic was “Frontiers in Organic Synthesis and Drug Discovery”. OSDD M.Sc Chemistry Outreach Program in Kerala was inaugurated by **Dr. Suresh Das**, the Director of NIIST, Thiruvananthapuram. During his inaugural address, Dr. Suresh Das conveyed the message from Prof. Sameer K Brahmachari, DG, CSIR on OSDD activities. He also congratulated Dr. K.V. Radhakrishnan of NIIST and the Academy of Chemistry Teachers of Kerala for having taken several steps to strengthen the outreach program in Kerala.

**Dr. Bert Fraser Reid**, famous carbohydrate chemist and the person who is actively involved in the WHO program on malaria and tuberculosis delivered the Key note address. A number of well known scientists from the country delivered lectures in various aspects of organic synthesis and drug discovery. **Dr. CV Ramana** from NCL, Pune, **Dr. Haridas Rode** from CSIR, New Delhi, **Dr. Bal Ganesh** from C-MMACS, Bangalore, **Dr. Ramachary** from Uty. of Hyderabad, **Dr. Muralidharan**

from IIT, Madras, **Dr. Vijay Nair** from NIIST, Trivandrum, **Dr. Santosh Gharpure** from IIT, Madras, **Dr. Sanjay Batra** from CDRI, Lucknow, **Dr. D. Ramaiah** from NIIST, Trivandrum delivered lectures.

The concluding session was chaired by **Dr. S. Prathapan** from Department of Applied Chemistry, CUSAT, Kochi. More than 100 teachers, students and research fellows from 35 institutes from all over Kerala attended the two day workshop.

The workshop was followed by a feed back session from students and teachers. The following ten M.Sc. students from various colleges were selected for the first batch of MSc. Chemistry outreach program from Kerala.

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|---------------------------|---------------------------------------------|
| 1. Mr. Akhilash M.,       | T. K. M. College of Arts & Science, Kollam. |
| 2. Miss. Ancy Yohannan    | University College, Thiruvananthapuram.     |
| 3. Miss. Arya R. M.       | Sree Narayana college, Chempazhanthi.       |
| 4. Miss. Atheetha V. S.   | Sree Narayana college, Chengannur.          |
| 5. Miss. Gayathri U. S.   | Sree Narayana college, Kollam.              |
| 6. Miss. Jaice Ravindran  | Sree Narayana college, Kollam.              |
| 7. Miss. Sreejith R. Nair | St. Stephen's College, Pathanapuram.        |
| 8. Mr. Manu V. T.         | St. Stephen's College, Pathanapuram.        |
| 9. Mr. Vishnu V. R.       | N. S. S. College, Pandalam.                 |
| 10. Miss Ajitha kumary A  | N. S. S. College, Pandalam                  |

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The selected students were given training and support for their dissertation work from April to June 2012. They synthesized, purified, and characterized more than sixty organic compounds leading to new molecular entities for OSDD program in CSIR-NIIST. The molecules are sent to MCC, Calicut for understanding the druggability and the work is under progress. The teacher guides of the above students are also helping in the programme. In this context ACT wholeheartedly acknowledge the untiring service rendered by Dr. K. V. Radhakrishnan, Senior Scientist of CSIR-NIIST, Trivandrum and his research team in NIIST without which the program would not have become a success. I would also like to thank Dr. Suresh Das Director NIIST and Dr. Zakir Thomas, Project Director, OSDD for their constant motivation and encouragement.

Christian College, Chengannur which is one of the oldest and prestigious Arts and Science College affiliated to the University of Kerala organized a National Seminar on "Current trends in Material Science" in association with 'Academy of Chemistry Teachers' from August 4th to 6th 2011.

The resource persons were:

- Dr. George Thomas (Bhatnagar Awardee 2006), NIIST, Thiruvananthapuram  
Dr. Suresh M.R., Dy. Project Director, GSLV Project, VSSC, Thiruvananthapuram  
Dr. K. G. M. Nair, Head, AMSS, IGCAR, Kalpakkam  
Prof. M. R. Annantharaman, HOD, Department of Physics, CUSAT, Kochi  
Prof. K. P. Vijayakumar, Department of Physics, CUSAT, Kochi  
Prof. N. V. Unnikrishnan, SPAP, M. G. University, Kottayam  
Dr. Mohanachandran, Vice President, HHV India Ltd. Bangalore.  
Prof. George Varghese, HOD, Department of Physics, Calicut University, Calicut  
Shri. K. G. Madhu, MD, Ammini Engineering Systems, KINFRA, Thiruvananthapuram  
Prof. C. Sudha Kartha, Department of Physics, CUSAT, Kochi

I would like to express our sincere thanks to The Principal, Christian College, Chengannur & Dr. R. Jayakrishnan, The Organizing Secretary of the National Seminar, for their help.

As part of 60th birth anniversary celebrations of Fatima Mata National College, the department of Chemistry organized lecture in "Applications of Group Theory in Spectroscopy" by Dr. A. Salahudeen Kunju and "Spectral Properties of Complex compounds" By Dr. G. Krishnan on 11th July 2011. Dr. Manohar D. Mullasserri, Secretary of the ACT was the organizing secretary.

A National Seminar on Physical and Bio Medical Applications in Nano Technology (NSNANO-2011) was conducted on October 12-14, 2011, at S.N. College, Kollam. The seminar supported by UGC was organized by the PG department of Physics in association with ACT. **Dr. A Jayakrishnan**, Hon Vice Chancellor, University of Kerala inaugurated the Seminar. **Dr. George Thomas**, IISER Trivandrum, Dr. Hari of Sree Chitra Thirunal Institute for Medical Sciences and Technology (SCTIMST), **Dr. K.G.K. Warriar** of NIIST, **Dr. Raveendran**, University of Calicut presented papers on various topics.

The Department of Chemistry, University of Kerala has organized a UGC sponsored National Seminar on "Recent Trends in Chemical Sciences: Frontiers and Challenges" RTCSFC-2011 on 25-26 August 2011. **Dr. T.S. Anirudhan**, HoD of Chemistry has been kind enough to associate ACT in the organization of the programme. We have also associated ourselves with Scholar-in-Residence Programme Under the Erudite Scheme of Higher Education Council, Government of Kerala held on 23rd TO 25th June 2011. Prof. **Dr. JAGADESE J. VITTAL**, Department of Chemistry, National University of Singapore, Singapore was the Erudite Scholar. He delivered six lectures which were all informative as well as inspiring.

**International Year of Chemistry 2011** (IYC 2011) was celebrated all over the world to commemorate the achievements of chemistry, and its contributions to humankind. It aimed to raise awareness of chemistry among the general public and to attract young people into the field, as well as to highlight the role of chemistry in solving global problems. In Kerala, the chemistry fraternity in almost all colleges organized many programmes and with some of the programmes ACT has also cooperated. Apart from giving full support to the planning and conduct of such programmes, **ACT** has also organized some programmes in its own.

Continuing with the mission of spreading the awareness in frontier areas of chemistry, some of the office bearers and active members of **ACT** delivered Lectures in various colleges.

We acknowledge the help rendered by the Departments of Chemistry of University College, Thiruvananthapuram, S.N. College Kollam, Fatima National College, Kollam, S.N. College Punalur, University campus Kariavattom, Christian College, Chengannur and TKM College, Kollam for the successful conduct of various programmes organized by **ACT**. We also thank NIIST, Thiruvananthapuram, UGC New Delhi, OSDD of CSIR, and MCC, Calicut for their support for the conduct of various programmes.

I would also like to thank Dr. C. G. Ramachandran Nair and Dr. T.S. Anirudhan for their constant motivation and advice in the formulation and implementation of various programmes.

The enthusiasm of our members is an unfailing impetus to the activists of **ACT**, but we stand on an unstable fiscal platform. In the present condition, unless financial stability is not gained, our activities may become unbearable burdens. The membership fee from several colleges were not received so far and many of the other programmes which were planned initially, including the release our journal **JACT**, were not materialized due to financial constrains. Hence, I request you to send annual membership fees (Rs. 150/- for each individual member) to the general secretary or the treasurer in the beginning of the academic year itself. But I am happy to note that many teachers from Kannur, Calicut, M.G uty areas have also become our members this year.

Our website [www.actkerala.org](http://www.actkerala.org) is updated regularly and we hope that students and researchers are benefited. Your valuable suggestions to improve the content matter of the website are solicited. Most of the members are timely intimated about various programmes by email and postal communications.

To conclude I express my gratitude to Prof G. Rajeev, the President and all the office bearers and members of **ACT** for their sincere cooperation and constant support.



**Dr. I.G. Shibi**  
General Secretary

Thiruvananthapuram  
16-06-2012