

## Department of Chemistry

### Workshops / Training Programmes

Title	Date	Duration	No. of Participants
Workshop on “ <b>Water Analysis</b> ” in collaboration with Exel Water System Pvt. Ltd.	14.9.2009 – 15.9.2009	2 days	38
Workshop on “ <b>Crystal Growth</b> ”	3.9.2009	1 day	97
Training Programme on “ <b>Water Analysis</b> ” at Diet Aqua	Nov 2010	7 days	10
	May 2011	15 days	10
Hands on Training on “ <b>Fruits and Vegetable Processing</b> ”	22.08.2011– 26.08.2011	3 days	22
Training on “ <b>Food and Water Analysis</b> ”	22.08.2011– 24.08.2011	3 days	20
Training on “ <b>Analysis of Phytochemicals</b> ”	24.08.2011– 26.08.2011	3 days	20
Workshop on <b>demonstration experiments in Chemistry &amp; Quiz</b> by Dr. T.S Lakshmi Narasimhan, Scientist, Indian Association of Nuclear Chemists & Allied Scientists ( <b>IANCAS</b> ), <b>IGCAR</b>	05.10.2013	1 day	120
Workshop on Radio Chemistry by Dr. Ramanathan, Dr. T. Kumar & Dr. K. Sankaran (organized in collaboration with society for advancement of chemical science education,(SACSE) IGCAR , Kalpakkam)	11.01.2014	1 day	100

### Guest Lectures

**2009- 2010**

Name of the External Expert	Title of the Lecture	Designation & Host Institute
Dr. V.Subramanian	Demonstration of Lab Techniques	Retd. Professor of Chemistry, Pachaiyappa’s College, Chennai
Dr. Reddy	Discover the genius in you	Director, Max Academy, Chennai.
Mr. Hemakumar	Analysis of water samples	Chief Analyst, Diet Aqua, Ulundai village, Thiruvallur Dt
Ms. N. Shanmugapriya	Analysis of water samples	Chief Analyst, EXEL Water Systems Pvt. Ltd. Guindy, Chennai.

Dr. Prima C. Thomas	Crystal Growth and its importance as NLO and Semi conducting materials	Asst. Professor, Saveetha Engg. College, Chennai
Dr. Ambujam	Applications of Crystals ranging from acoustic – optic and NLO materials	Vice Principal, Queen Mary's college, Chennai
Dr. Sahayaraj	Crystal growth and its importance	Associate Professor, Loyola College, Chennai.
Ms. Anita	Purification of water by Reverse Osmosis – Principle and process	Managing Director, EXEL Water Systems Pvt. Ltd. Guindy, Chennai.
Dr. K. Mangalasundar	Web Based curriculum writing, online education and virtual classrooms	Professor, I.I.T, Madras.
Dr. V. Subramanian	Molecular Modelling	Scientist, CLRI, Chennai
Dr. Sanjay Kumar	Mathematical Methods – computing techniques for sciences	Professor, I.I.T, Madras.
Ms. Manjusha Joshi	Open Source tools for Science and Engineering – Scilab & LATEX	Lecturer, Bhaskacharya Research Institute in Mathematics, Pune.
Ms. Hemalatha	Chromatography techniques	Research Scholar, I.I.T, Madras.

### 2010-11

<b>Name of the External Expert</b>	<b>Title of the Lecture</b>	<b>Designation &amp; Host Institute</b>
Dr. N. Chandrakumar -	From science to society- the discovery continuum exemplified by spins	Professor, Department of Chemistry IIT Madras
Dr. K. K. Balasubramaian	Ways to prepare oneself to be a good chemist,	Director, Shasun Drugs and Chemicals Pvt. Ltd
Dr. Pradeep	Nucleation of collaboration research in colleges	Professor, Department of Chemistry, IITM
Dr. Aruna Dhattathreya	Women and Research- limitations and tips to overcome the obstacles	Senior Scientist, CLRI

Prof. Sriman Narayan	Higher education and research in chemistry	Head, Department of Analytical Chemistry, University of Madras
Dr. Bhuvanewari	Scope for Women scientists in industry.	Scientist, Shasun Drugs and Chemicals Pvt. Ltd
Dr. Lakshmi Narasimhan & Team of Scientist	Demonstration Experiments and Quiz	Scientist, IGCAR, Kalpakkam

### 2011-2012

Name of the External Expert	Title of the Lecture	Designation & Host Institute
Prof. K. S. Viswanathan	<ul style="list-style-type: none"> <li>The Art of doing Science</li> <li>The Basics of Spectroscopy and the principles of NMR</li> </ul>	Professor, IGCAR, Kalpakkam
Dr. K.K. Balasubramanian	Atropisomerism	Visiting Professor, B.S. Abdur Rahman University and Sri Ramachandra university

### 2012-2013

Name of the External Expert	Title of the lecture	Designation & Host Institute
Dr. Rukmani Srinivasan	Symmetry of molecules	Former Head, Dept. of Chemistry Stella Maris College
Dr. Narasimha Swamy	NMR Spectral studies – Polymer Materials	Senior scientist, CLRI
Ms. Asha Vargheese,	Cosmetics & Personal care	Faculty, Women Christian College
Ms. Vasundara	Cosmetics & Personal care	Cosmetologist
Dr. Meenakshi	Types of Facials and Toners	Scientist, Cavin Care
Dr. S.N Jaisankar	Rheology of polymers	Senior scientist, CLRI
Dr. Narasimha Swamy	Fourth state of matter	Senior Scientist, CLRI
Dr. Meenakshi	Advantages & Applications of Cosmetics	Scientist, Cavin Care
Prof. Krishnan Raghavachari	Chemistry Without The Glassware: Computational Approaches To Chemical Problems	Indiana University, USA.
Dr. U.V. Varadaraju	Lithium ion batteries	Professor, IIT Madras

Dr. Jessuritta Sathian	Organic reaction mechanisms	Professor, Dept. of Chemistry Stella Maris College
Dr. Roop Singh,	Nanomaterials	Presidency College
Dr. Jaishankar	Polymer nanocomposites	Senior scientist, CLRI
Dr. Selvam	Nanostructured materials for Sustainable (green) chemistry	IITM

### 2013-2014

<b>Name of the External Expert</b>	<b>Title of the lecture</b>	<b>Designation &amp; Host Institute</b>
Dr. Kalaivani	Zeigler Natta Catalysis	PDF Italy
Mr. Raja	Enzymatic analysis and Immunoassays	Technical Director, CRIST,SMC
Dr. Jesuritta	Organic Chemistry- Nucleophilic substitution reactions	Retd. Faculty, Dept.ofChemisty, SMC
Ms. Meenakshi Narayanan	Cosmetics &Personal Care, w.r.t Hair and Skin	General Manager, Cavin Care
Dr. T. Pradeep	Chem Fest, Reactions-2013 -A Century of Chemistry!	Professor, Dept. of Chemistry, IIT-M
Dr.Sandeep Kumar	Crystals , can they be liquefied?; The Fascinating World of Liquid Crystals	Professor, Raman Institute, Bangalore
Mr. Raja	Demonstration Clinical Biochemistry	Technical Director, CRIST,SMC
Ms. Dhanalakshmi	Demonstration-MAT LAB	Faculty, Dept. of Mathematics
Dr. P. Vasudeva Rao	chemistry & society	Distinguished Scientist- IGCAR, Kalpakkam
Dr. R. Kumar	Applications of radio isotopes	Chemistry Group IGCAR
Mr. Munesh Prabhakaran	the solar power panel installation and its working techniques	General Manger Sales, Omega Natural Polarity Pvt Ltd
Dr.Divya	Health &Hygiene of Women	Gynaecologist, Isabella Hospital, Chennai
Dr. N.Ramanathan	Fundamentals of Nuclear Chemistry and Applications of Radio Isotopes	Chemistry Group IGCAR

Dr. N. Jaishankar	Polymer Nanocomposites	Senior Scientist, CLRI
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### EXHIBITION

#### 2010-11

Department	Details
Chemistry	Exhibition on Principles of Analytical Chemistry by II UG Students which enabled experiential learning.

#### 2011 – 12

Department	Details
Chemistry	Aug. 26, 2011 - Testing of Food Adulteration, Food colours and food additives, Reverse Osmosis Plant , Potability of water

#### 2012-13

Department	Details
Chemistry	Testing of Food Adulteration and Water Analysis

### Seminars / Conferences

Department	Details
Chemistry	<ul style="list-style-type: none"> <li>• <b>National Conference on “Micro Scale Experiments in Physical Chemistry”</b> organized in collaboration with Central Leather Research Institute, Chennai on November 24-25, 2012.</li> <li>• A two day <b>National Conference on “New Frontiers Inorganic Chemistry and Process Research (NFOCPR- 2013)”</b> was organized in collaboration with Shasun Pharmaceuticals Ltd. on January 24-25, 2013.</li> </ul>

#### 2009-2013

Dept.	Title	Duration	No. of Participants
Chemistry	Workshop on <b>“Computing Techniques for Sciences”</b> was organised for the <b>faculty of the Science departments (both within and outside)</b>	4 days	18

	from January 20-23, 2009.		
Chemistry	National Workshop on <b>Microscale Experiments in Physical Chemistry</b> on Nov. 23-24, 2012. It enables the use of eco friendly, cost effective and time saving practices.	2 days	35
Chemistry	Training in “ <b>Micro scale experiments in inorganic and organic chemistry</b> ” for the faculty of the department on Feb.11, 2012.	1 day	9
Chemistry and Botany	A Three day Workshop on “ <b>Solid and Liquid Waste Management</b> ” for faculty from various departments (Nov.30 – Dec.2, 2011).	3 days	25

### Industrial / Laboratory / Exposure Visits

2009 – 2010

Department	Particulars
Chemistry	<ul style="list-style-type: none"> <li>❖ Visit to the polymer exhibition on plastics and polymers IPLEX 2009 by II B.Sc. Chemistry students at Chennai Trade Center, Nandambakkam from 4<sup>th</sup> to 7<sup>th</sup> September 2009.</li> <li>❖ On Aug. 21<sup>st</sup> 2009, an educational trip was organized for the students of the I B.Sc Chemistry to Diet Aqua, a packaged drinking water plant situated at Ulundai village in the Tiruvallur district. They visited the chemical labs where the packaged water at Diet Aqua is tested for 72 parameters of water quality on a daily basis using various instruments like the digital spectrophotometer, gas stripping apparatus, turbidity meter, conductivity meter and the pH meter.</li> <li>❖ <b>WINTER TRAINING:</b> The department of Botany conducted a Training programme on ‘Bioinstrumentation’ from Jan. 25-28, 2010 for the I year students of B.Sc. Plant Biology &amp; Plant Biotechnology.</li> <li>❖ <b>SUMMER TRAINING - Inter departmental conducted at Stella Maris College</b> A batch of 30 students from Botany, Chemistry and Zoology were given intensive Hands on Training on ‘Analytical Instrumentation Techniques’ during summer from April 19-23, 2010. The students learnt the principle, procedure and</li> </ul>

	<p>application of various techniques/instruments like UV-Visible spectrophotometer, Flame photometer, Phtocolorimeter, Electrophoretic techniques, Laminar air flow for microbial culture techniques, Chromatographic techniques, Advanced Binocular and Trinocular microscope with camera attachment. The training enhanced their practical skill and infused in them a yearning for scientific research.</p>
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### 2010 – 2011

Department	Particulars
Chemistry	<ul style="list-style-type: none"> <li>❖ Industrial visits to Indian Institute of Technology Madras on August 24, 2010 by I &amp; II year students, CLRI on 17 September, 2010 Anabond on 10 February 2011, Diet Aqua &amp; Excel water systems on May 1 &amp; 2, 2011. The visit gave the students firsthand knowledge about analytical instrument technique, polymer chemistry and principles of water analysis</li> </ul>

### 2011-2012

Department	Particulars
Chemistry	<ul style="list-style-type: none"> <li>❖ Visits to IIT-M – II U.G. and Central Leather Research Institute – I &amp; II U.G. to study the working of different instruments and gain exposure to analytical instrumentation techniques on Sep. 20, 2011.</li> <li>❖ Industrial visit to M/s. Metalloys Ltd., Ambattur, an Electroplating &amp; gold plating unit – I year students and III year students gained knowledge about the basic principles involved in electroplating process March 7, 2012.</li> </ul>

### 2012-2013

Department	Particulars
Chemistry	<ul style="list-style-type: none"> <li>❖ I year students visited ANABOND, Perungudi on October 06, 2012. Lecture cum demonstration on polymers-raw materials, preparation applications and analytical techniques for characterization.</li> <li>❖ I year students visited different laboratories at CLRI (Central Leather Research Institute) on March 7, 2013. They were exposed to sophisticated analytical instruments such as DTA, TGA instruments, Gel permeable chromatography and NMR.</li> </ul>

Department	Particulars
	❖ II year students visited Diet-aqua, drinking water plant process and quality control from May 2, 2013 to May 25, 2013.

### 2013-2014

Department	Particulars
Chemistry	<ul style="list-style-type: none"> <li>❖ I B.Sc students were taken to CLRI and they were exposed to sophisticated analytical instruments techniques (FT-IR, NMR, GC-MS) on Feb 2, 2014</li> <li>❖ I B.Sc were involved in creating awareness on “adulterants in food samples &amp; pollutants” on 20th Jan 2014 at St. Ebbas Girls School, Chennai.</li> <li>❖ I B. Sc students also visited Asthagiri Herbal Foundation- to get an exposure on pharmaceutical processes- formulation of drugs &amp; analytical techniques; gas chromatography, UV-Visible spectrophotometer, FT-IR, HPLC, Roto Vapour, Column Chromatography, Thin Layer Chromatography on 17 Feb 2014.</li> </ul>

### Manuals

- ❖ Laboratory manual on “Semimicro Qualitative Analysis” (2009-10)
- ❖ Laboratory manual on “Volumetric Estimation and Organic Evaluation” (2010-11)
- ❖ **Teaching Kit – Micro Electrode Kit** designed by two faculty of the Chemistry department.

It is a mini electro chemical cell with an inbuilt salt bridge. The main feature of it is the use of 1 to 2 ml. of solution, thereby facilitating minimal use of chemicals. The kit can be easily cleaned and reused. It has a high wear and tear. It is cost effective and environment friendly. This kit is used by both UG and PG students in their Electro Chemistry Practicals.



- ❖ **Intercollegiate Competitions organised** – Several competitions were organized by the Science departments to make the students experience fun filled learning in their own disciplines. This event provided an opportunity for the students to meet one another, exchange ideas and views, and showcase their talents and organizational ability. The various events included Adzap, Dumbcharades, Junk Art, Debate, Creative Writing, Photography, Paper and Poster Presentations, Collage, Crossword, Myriad, JAM and Quiz. Students from 10 to 15 neighboring Colleges participated in this event.

<b>Department</b>	<b>Year</b>	<b>Date</b>
Chemistry - <b>Reactions</b>	2009-10	January 12, 2010
	2010-11	September 16, 2010
	2011-12	December 2, 2011
	2012-13	September 28, 2012