

# Seminar on “Atomic Absorption Spectrometry”

Tuesday, August 16<sup>th</sup>2016





*College of Chemical Sciences  
Institute of Chemistry Ceylon*

*A Government approved Charity  
(Founded 1971: Incorporated by Act of Parliament No: 1972 Successor to the Chemical Society of Ceylon, Founded 1941)*

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June 16<sup>th</sup> 2016

Dear Sir / Madam,

**A Seminar on Atomic Absorption Spectrometry**

The College of Chemical Sciences, Institute of Chemistry Ceylon is conducting a seminar on “**Atomic Absorption Spectrometry**” on 16<sup>th</sup> August 2016.

The presentations will be carried out by experts in the field and will be useful for all engaging in element analysis using atomic absorption spectrometry.

Please refer the program attached herewith for more information.

I hope that, you and your staff would make use of this valuable opportunity to gain a better understanding of the principles and applications related to atomic absorption spectrometry.

The attendees will be awarded a certificate and a folder of materials containing all the presentations.

Thank you

Yours faithfully,

.....  
Professor K A S Pathiratne

Seminar Coordinator

# *Seminar on Atomic Absorption Spectrometry*

## **Programme**

**Venue:** Adamantane House, 341/22, Kotte Road, Welikada, Rajagiriya

- |                       |   |  |
|-----------------------|---|--|
| 08.30 am – 09.00 am   | - | Registration of Participants   |
| 09.00 am – 09.10 am   | - | Welcome address by the coordinator   |
| 09.10 am – 09.20 am   | - | Address by the Rector, Prof. S P Deraniyagala  |
| 09.20 am – 09.30 am   | - | Address by the Dean, Prof (Mrs.) P A Paranagama  |
| 09.30 am – 10.30 am   | - | <b>Fundamentals of Atomic Absorption Spectrometry</b><br>Professor K. A. S. Pathiratne, <i>Professor in Chemistry, CCS</i>   |
| 10.30 am – 11.00 am   | - | <b>TEA</b>   |
| 11.00 am – 12.00 noon | - | <b>Techniques for Sampling of Soil, Waters and Biological Materials for Atomic Absorption Spectrometry</b><br>Dr. M. N. Kaumal, <i>Senior Lecturer, Department of Chemistry, University of Colombo</i> |
| 12.00 noon– 01.00pm   | - | <b>Sample Digestion Methods for Analytical Atomic Spectrometry</b><br>Dr. S. R. Gunathilake, <i>Senior Lecturer in Chemistry, CCS</i>  |
| 01.00 pm – 02.00 pm   | - | <b>LUNCH</b>   |
| 02.00 pm – 03.00 pm   | - | <b>Elemental Analysis using Atomic Absorption Spectrometry</b><br>Professor K. A. S. Pathiratne, <i>Professor in Chemistry, CCS</i>  |
| 03.00 pm – 04.00 pm   | - | <b>Method Validation for Atomic Absorption Spectrometry</b><br>Professor H. D. Gunawardhana, <i>Emeritus Professor of Chemistry, Department of Chemistry, University of Colombo</i>                    |
| 04.00 pm              | - | <b>TEA &amp; Distribution of Certificates</b>  |

# **Overview of the Presentations**

## **Fundamentals of Atomic Absorption Spectrometry**

Principles and instrumentation relevant to flame and furnace atomic absorption spectrometric techniques, cold-vapor atomic absorption and hydride generation techniques together with their representative applications.

## **Techniques for Sampling of Soil, Waters and Biological Materials for Atomic Absorption Spectrometry**

Representative sampling, The type of materials, equipment and containers required in sampling of soil, water and biological materials, Sample traceability records, Sample transportation and storage of samples.

## **Sample Digestion Methods for Analytical Atomic Spectrometry**

Liquid-liquid extraction, Ashing (Dry & wet), Fusion, Hot-plate digestion (open digestion), Microwave digestion (closed-vessel digestion), Special characteristics of Microwave acid digestion over other methods, Chemistry of acid digestion, Reagent purity in sample preparation and digestion, How to control the losses and contaminations and perform clean Chemistry ? Present and future trends in sample preparation. (Laser Ablation etc.)

## **Elemental Analysis using Atomic Absorption Spectrometry**

Construction of acceptable calibration curves, Identification of usable range of calibration curves, Analysis of real samples, Interferences in atomic absorption spectrometry; Matrix effects and Recovery tests, Matrix modification & Matrix matching, External calibration curves, Standard addition and Internal standard methods.

## **Method Validation for Atomic Absorption Spectrometry**

Comparison of results achieved with other methods, Inter-laboratory comparisons, Systematic assessment of the factors influencing the results, Assessment of uncertainty of the results based on scientific understanding of the theoretical principles of the method and practical experience.

# *Seminar on Atomic Absorption Spectrometry*

## **Registration Form**

Name: (Prof/Dr/Mr/Ms).....  
(This name will appear on your certificate)

I ChemC Member (Yes/No)                      If yes, Membership Number.....

Institution.....

Official/Permanent Address.....

.....

Email Address .....                      Contact Number .....

Meal Preference      Vegetarian       Fish       Chicken       Egg

Herewith, I am sending cheque/ money order worth of Rs.....

Date.....                      Signature.....

.....

### **Registration Fee: (inclusive of refreshments and lunch)**

<b>Payment Deadlines</b>	<b>Undergraduate** / CCS Students</b>	<b>IChemC Members / PG Students**</b>	<b>Non Members</b>
Early bird (15 <sup>th</sup> July 2016)	Rs. 1000	Rs. 2000	Rs. 2500
Regular (30 <sup>th</sup> July 2016)	Rs. 1250	Rs. 2500	Rs. 3000
Belated (16 <sup>th</sup> August 2016)	Rs. 1500	Rs. 3000	Rs. 3500

**\*\* Copy of the valid student ID / letter of confirmation of studentship should be attached with the application.**

**Payments can be made to any branch of Bank of Ceylon Acc. No 2323118 (Branch – Torrington Square) or any branch of HNB Acc. No 036010212767 (Branch – Rajagiriya). All cheques should be drawn in favor of 'Institute of Chemistry Ceylon'.**

**Please be kind enough to attach the payment slip or cheque to this form.**

### **For more details, please contact**

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