



Top stories in this newsletter



In Memoriam



New Addition - LCTech GmbH



University of Manitoba—ASITA 2019

INTRODUCTION - MESSAGE FROM PETER STOW

I'm writing this from The Queen Mary floating hotel in Long Beach, California. While being a very nice opportunity to get away from the Canadian winter for a weekend, this is the setting for this years clumped isotope workshop (ICIW 2019). Clumped isotope research is a branch of isotopic analysis that looks at doubly substituted heavy isotopes within molecules such as CO₂. By looking at variations in mass 47 it's possible to generate higher precision temperature measurements at which rocks or minerals were formed as well as the water temperature in which pre-historic shellfish lived. These measurements have a direct bearing on our understanding of the geological and environmental history of the earth.

Back to The Queen Mary, it's a real testament to the Art Deco period. Launched 85 years ago it's now a hotel, museum and conference centre- Well worth a visit if you're in the area.

Much of this issue is taken up with workshop news, please see page two for information on the ASITA workshop and an opportunity to attend a one day short course on the IRMS source, its disassembly, cleaning and reassembly. This short course has been fashioned from our full IRMS course which runs three times a year at the University of Ottawa.

IN MEMORIAM - BRUNO LAVETTRE



It was with great sadness that we heard of the passing of Bruno Lavettre from Costech Analytical. Bruno was well known in the Elemental Analyzer and Isotope Ratio Mass Spectrometer communities. Many in these communities came to rely on his knowledge, experience and willingness to support instrument users.

His zest for life was infectious. He played keyboards in a band and early on had opportunities to turn his passion for music in to his life. As a scientific community we are so lucky that Bruno choose music as a hobby and science as his career.

SAMPLE PREPERATION FOR DIOXIN ANALYSIS

Human health and contamination of our food supply and environment are of great concern in todays world. Since the Seveso disaster in 1976 a class of chemicals known as dioxins have been a part of this concern and their presence is now monitored by health authorities around the world. Dioxins were amongst the first class of chemicals to be restricted under the Stockholm Convention on Persistent Organic Pollutants.



While there is a well known manual procedure for isolating these compounds for analysis using a Soxhlet extraction, many labs are now opting to use automated extraction equipment. LCTech have produced their DEXTech automated sample preparation system since 2013. Now LCTech have introduced the DEXTech Heat for samples that are solid at room temperature such as PFADs or stearin.

Integrated heating zones heat all components of the system that are relevant for processing the sample and keep the sample liquid throughout the clean-up process, from sample vial to loading onto the first column. This prevents clogging of the first clean-up column. The homogeneous consistency of the sample ensures a better distribution of the quantification standard and thus better recoveries.

Sample preparation automation gives opportunities to improve sample throughput, reproducibility and overall laboratory efficiency. Additionally, by removing the technician from the glassware and solvents during extraction, laboratory safety is improved.

ASITA 2019



This year is the 25th anniversary of the [ASITA](#) stable isotope workshop. ASITA (Advanced Stable Isotope Techniques and Analysis) grew out of the CF-IRMS. This year's workshop will be held at the University of Manitoba MIRF (Manitoba Isotope Research Facility).

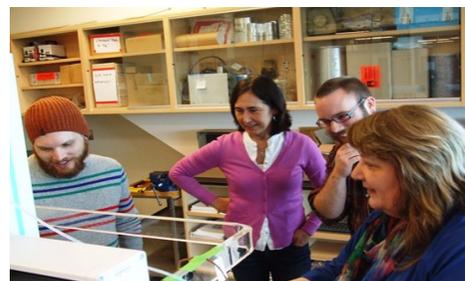
The first Continuous Flow Workshop (CF-IRMS Workshop) was held in September 1994 in Lethbridge, Alberta. In the late 1980's and early 1990's the established method for analyzing stable isotopes of CO₂ (13C and 18O) and N₂ (15N) was by preparing gas samples 'off-line' on separate prep lines then transferring these gas samples to a Dual Inlet Stable Isotope Mass Spectrometer by glass break seals or small sample bottles and then analyzing

these samples; using a Dual Inlet IRMS system allowed for the best analytical precision of analysis.

In the 1980's a continuous flow interface was designed by using a splitter valve between an Elemental Analyzer exhaust connection and an IRMS to transfer the contents of a combusted soil or plant sample and then by analyzing the 13C or 15N from the combusted sample. Reference samples were combusted every 5-10 samples and drift correction adjusted the results allowing for reasonable results to be obtained. The real advantage, however, was the increased sample throughput that could be achieved thereby decreasing the cost per sample being analyzed. The idea of CF-IRMS was as a workshop to introduce Canadian scientists to the continuous flow technology and show how analytical precision was approaching Dual Inlet IRMS analysis. Further benefit was to provide technical support for those labs that currently had CF-IRMS instruments but were struggling because they could not get answers to their questions.

ASITA 2019 SHORT COURSE

A large part of the ASITA workshop has been its educational aspect for new and experienced users alike. To further this aspect of the workshop Isomass is pleased to present a one day short course on the Delta stable isotope mass spectrometer source. This short course will include both theoretical and practical discussions of the source, source disassembly, cleaning and reassembly. Sources will be available for hands-on experience. The short course is a subset of the full Delta training course presented by Isomass at the University of Ottawa. Please see [Isomass'](#) website or the [ASITA 2019](#) website for information and registration.



2019 PRICING

Just a heads up for our users who might be buying consumables in the next little while; pricing for some items will change in March and we advise you to put your orders in as soon as possible before then. We would also like to remind you that elemental analyzer consumable orders over \$2,000 qualify for free shipping.

CONFERENCES - Come visit us at these upcoming conferences!



Canadian Trace Organic
Workshop
May 13 - 14, 2019
Edmonton, Alberta



GAC-MAC-IAH
May 12 -15, 2019
Québec, Quebec



9th International Symposium
on Flame Retardants
May 14 -17, 2019
Montreal, Quebec



ASITA 2019
June 9 -12, 2019
Winnipeg, Manitoba

The conferences Isomass attends are listed on our website, www.isomass.com, and are always being updated!



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