



Canadian Nuclear Society / Société Nucléaire Canadienne

Chalk River Branch, c/o Dr. Blair P. Bromley, AECL-Chalk River Laboratories, Chalk River, ON K0J 1J0

<http://www.cns-snc.ca/branches/ChalkRiver/> e-mail: webmaster@cns-snc.ca

*“Supporting nuclear science and technology for over 25 years”
“plus de 25 ans de promotion de la science et de la technologie nucléaires”*

SLEUTHING WITH STABLE ISOTOPES

The Chalk River Branch of the Canadian Nuclear Society is pleased to welcome Dr. Roy Krouse (Emeritus Professor, University of Calgary), who will speak on “Sleuthing With Stable Isotopes”.

Stable isotope methodology has been used to solve problems in many disciplines. Isotope dilution is used to measure the concentration of a given element or molecule in a specimen, including the water content of humans. Applications of isotope tracing techniques include detecting adulteration of food and beverages, the fate of pollutants in the environment, and the residential history of humans. Isotope fractionation refers to the alteration of isotope abundances in physical, chemical, and biological mass dependent processes. Hence the isotopic composition of a specimen can be diagnostic of processes to which it was subjected.

Among other endeavors, the above concepts have been successfully applied to measure the energy expenditure of astronauts, demonstrate adulteration of apple juice by a supplier in Surrey, B.C., trace the fate of sour gas processing emissions in Alberta, find the depth of a crack in an oil well casing, identify cave building by bacteria in Banff, and record whale migration in the Arctic.

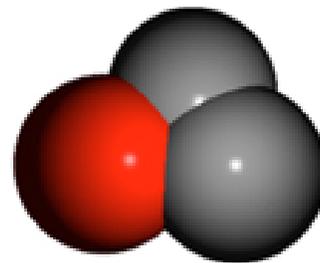
Roy Krouse was born in Southern Ontario and received a B.Sc. in Physics and Chemistry and a Ph.D. in Physics from McMaster University. He established multi-disciplinary stable isotope laboratories at the University of Alberta and the University of Calgary. He is well-known internationally having served on committees for the United Nations Environmental Program and the International Atomic Energy Agency, Vienna. He has also held visiting appointments in universities and government laboratories in many countries including Australia, Brazil, Japan, New Zealand, Poland, Russia, and the U.S.A. He has received many awards recognizing his stable isotope research including Fellowship in the Royal Society of Canada and the Canadian Association Physicists' medal for Outstanding Achievement in Industrial and Applied Physics.

Roy Krouse

7:30 PM

Wednesday, June 20, 2007

Bennett / Mackenzie Room, J.L. Gray Centre
(Entry via rear security entrance)



Refreshments will be served – ALL ARE WELCOME

Further information: Blair Bromley at 584-8811 Ext. 3676, or 613-584-1518