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## Visiting nature's history book

Interest in climate change research has taken on new importance with evidence that greenhouse gases are adversely affecting the earth's climate. There are many important social, economic and scientific questions that have been raised in this area, such as: Is climate changing? If so, can these changes be related to human activities? Are episodes of extreme weather, such as droughts, increasing in frequency?

To answer these and many other questions, long-term meteorological data, on broad spatial and temporal scales, is needed. Unfortunately, there has been little collection of this kind of data in the past and, as a result, indirect proxy methods must be used to infer past climatic trends. Fortunately, the earth's aquatic systems store in their sediments an important library of information of past meteorological changes. For example, a large number of organisms leave fossils in lake muds, which paleolimnologists have been able to use to track past environmental conditions.

These trackings that have provided important insights into the natural modes of climate change and have determined the frequency of extreme climatic events. As well, these studies have tracked the influence of human activities on our planet's ecosystems.

Accessing the history stored in the earth's aquatic systems to determine past environmental conditions will be the subject of an informative lecture by Queen's University Professor **John Smol (right)**, at the 2005 Morris Katz Memorial Lecture in Environmental Research. The lecture will be held at York on Wednesday, May 25, at 2:30pm in the Senate Chamber, N940 Ross Bldg., Keele campus.



Smol is the holder of the Canada Research Chair in Environmental Change and the founding editor of the *Journal of Paleolimnology*. He co-directs the Paleoeological Environmental Assessment and Research Laboratory (PEARL) at Queen's. His lecture will summarize some recent studies that have documented marked climatic variability that is outside the range captured by the instrumental record, and other proxy data that have a strong bearing on sustainability of human societies.

As arctic ecosystems are often the first to show signs of environmental change, and do so to the greatest degree, examples from polar regions will be highlighted. Only with such long-term perspective can we understand natural climatic variability and the potential influences of human activities on climate, and thereby increase our ability to understand future climate.

As co-director of PEARL, Smol works with a group of 30 paleolimnologists situated around the world on a variety of limnological and paleoecological problems.

With over 300 journal publications and book chapters to his credit, Smol has also edited and authored 14 books, including one textbook. PEARL's paleolimnological work was used extensively in the acid rain debates. The recipient of numerous awards, Smol was most recently awarded the NSERC Gerhard Herzberg Gold Medal, this past December, as Canada's top scientist or engineer. For a full biography of Smol, click [here](#).

### About Morris Katz

Morris Katz, 1901-1987, was an outstanding scientist. He spent 35 years in public service, where he pioneered air pollutant sampling and measurement methodology and was among the first to demonstrate the presence of ozone damage to vegetation in Ontario. He taught chemistry

at York until his death. He authored or co-authored more than 150 books and articles and was the recipient of numerous awards for his work. The Morris Katz Lectureship was made possible by the establishment of an Endowment Fund created through contributions from his family, friends and colleagues, private companies, universities and government.

### **About York's Centre for Atmospheric Chemistry**

York's Centre for Atmospheric Chemistry was established in 1985 in response to a growing public concern about the atmospheric environment. It offers programs that provides students with the necessary theoretical background and practical laboratory experience to enable them to make meaningful contributions to important environmental concerns upon their graduation. York also offers MSc and PhD degrees in atmospheric chemistry.

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