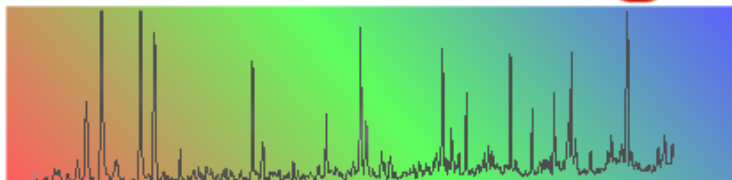




# SAS-Chicago



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*March Joint Meeting with Chicago Chromatography Discussion Group (CCDG)*

## March Meeting

Tuesday, March 21, 2006



The March 2006 meeting will be held at the Steven's Steakhouse Restaurant, located at 476 N. York Road, Elmhurst, IL 60126-2002, 630-834-6611.

*See the map on the following page.*

**Social Hour: 5:30 - 6:30 PM**

**Dinner: 6:30 PM**

**Speaker: 7:30 – 9:00 PM**

### GC-MS: Environmental Analysis Using Selected Halocarbons as in-situ Surrogates for Volatile Organic Air Toxics Analysis

*by*

**Wayne J Whipple, Ph. D.**  
(US EPA R5 CRL)

This presentation will discuss monitoring ambient concentrations of selected halocarbons, F-12, F-11, F-113, F-114, CCl<sub>4</sub> and CH<sub>3</sub>Cl<sub>3</sub> as in-situ surrogates for quality assurance in the analysis of atmospheric volatile organic compounds (VOCs) by method US-EPA TO-15. Method TO-15 does not require surrogates although surrogates are useful for tracking sample preparation and analysis and are important aids for monitoring the performance of the analytical system through control charts. These anthropogenic halocarbons were released into the atmosphere in large quantities starting around the 1950s. The production of these halocarbons was banned globally by the Montreal Protocol and subsequent international accords in the early 1990s minimizing any new sources. They do not readily degrade in the troposphere allowing the halocarbons to persist in the atmosphere from decades to centuries resulting in stable, measurable concentrations throughout the troposphere. This allows the monitoring of each ambient air sample's halocarbon concentrations as in-situ surrogates for atmospheric VOC analysis. The laboratory collected and analyzed weekday grab samples from downtown Chicago for a 7 month period to study the variability of these compounds and found their ambient concentrations to be very constant. The measured halocarbon concentrations were (average  $\pm$  standard deviation ppbv) F-12 540  $\pm$  113, F-11 380  $\pm$  59, F-113 96  $\pm$  15, CH<sub>3</sub>CCl<sub>3</sub> 42  $\pm$  14, F-114 27  $\pm$  7, CCl<sub>4</sub> 110  $\pm$  13. Acceptance limits of  $\pm 3 \cdot$  were calculated on the halocarbon suite to track the performance of the analytical system. This presentation will show the global halocarbon background concentrations, data from the sampling study and control charting of the halocarbons over the sampling period to demonstrate that this additional quality assurance procedure improves the confidence in the data generated by method TO-15 and other atmospheric VOC analyses.

Please make your dinner reservations for the upcoming meeting by email at [sas.chicago@bigfoot.com](mailto:sas.chicago@bigfoot.com), by using the form on our web page < <http://www.sas-chicago.org/Online%20Registration%20at%20Steven's%20Steak%20House.htm> >, or by calling Mary Kaplar at 815-436-7652. Leave your name, company affiliation, a telephone number, the number of reservations and your choice of entree. Please call by noon March 17th, so that proper arrangements can be made with the restaurant. If you can't attend, cancel by Mon. noon: SAS is charged for no-shows.

**Entree choices: London broil Steak, Chicken with Lemon Caper Sauce, or Vegetarian Fettuccini.**

**Dinner Cost Members: \$25**

**Students and Unemployed Members: \$10**  
(No Shows may be Billed)

**Non-members: \$30**

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## Biography of Wayne J Whipple

Wayne received his undergraduate, BS in chemistry from University of Alaska Anchorage and Masters and Ph.D. in physical chemistry at University of California Irvine. He has worked for the U.S. Army Center for Promotion and Preventive Medicine, Europe (Landstuhl, Germany) and at the US EPA Region 5 Chicago Regional Laboratory for the last 5 years.

At the University of Alaska he studied the breakdown of pesticides in the subarctic environment and the partitioning of omega three and omega six fatty acids in pen reared salmon.

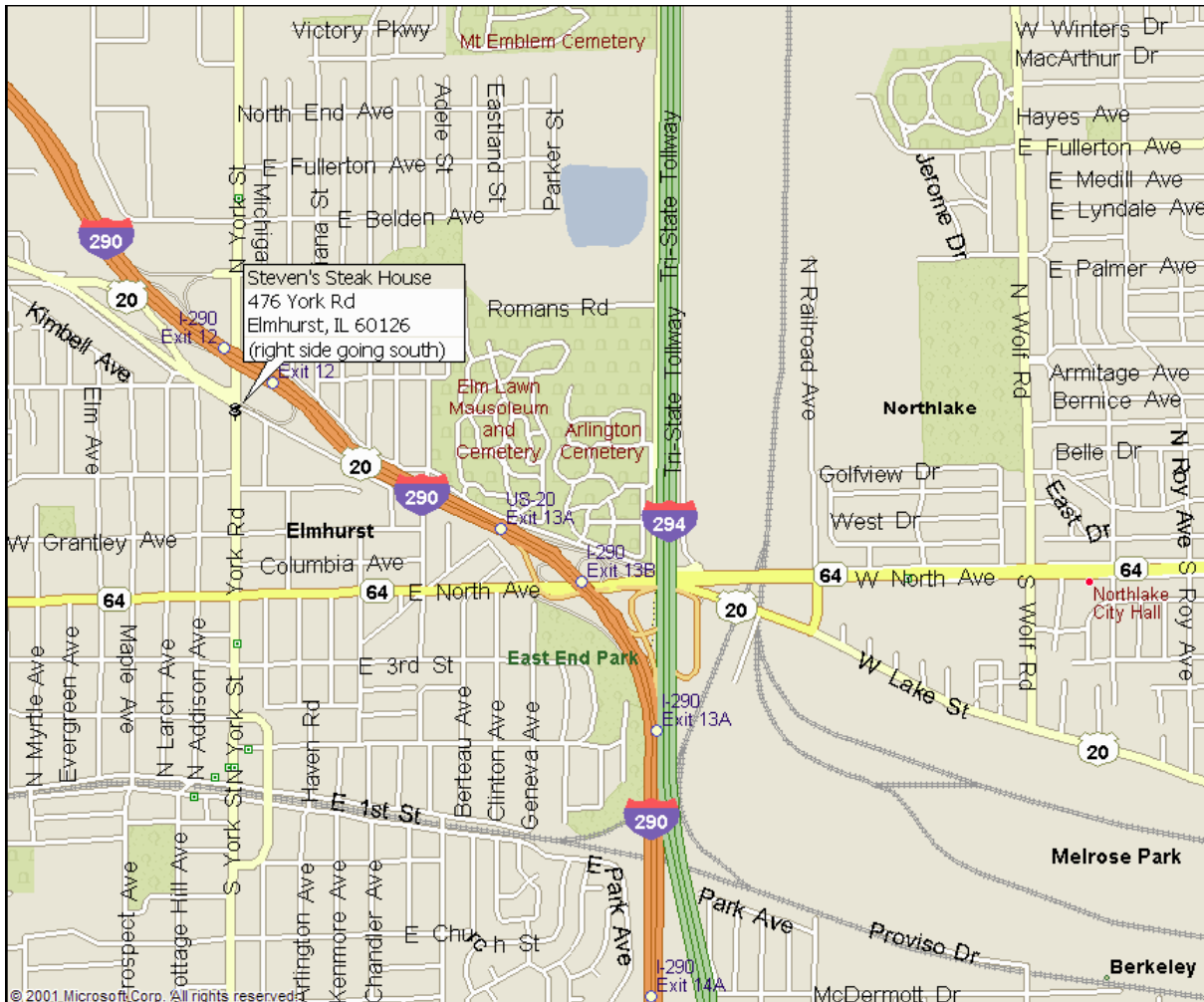
At Irvine he studied global and urban volatile non-methane hydrocarbons both on the ground and airborne using grab samples. Much of the work was part of the NASA Global Tropospheric Experiment in the Arctic Boundary Layer Experiments. His advisor Professor F.S. Rowland won the Nobel Prize in 1995 for discovering that chlorofluorocarbons will deplete ozone in the stratosphere. In Germany he analyzed volatile organic compounds in water and soil.

Currently he is developing methods to study persistent bioaccumulative toxic compounds like polybrominated flame retardants and PCB congeners in sediment, biosolids and sludge.

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