



Society for Analytical Chemists of Pittsburgh

MIDDLE/HIGH SCHOOL SCIENCE TEACHERS WORKSHOP

The Colorful Chemistry of Iron in Chemical Analysis

When: Saturday, April 5, 2008

9:00 AM – 2:00 PM

(Registration 8:30 – 9:00 AM)

Where: University of Pittsburgh - Greensburg

Smith Hall, Room 102

150 Finoli Drive, Greensburg, PA 15601

Instructor: Professor Mark Stauffer, Ph.D.

University of Pittsburgh - Greensburg

Cost: Free of Charge (including free lunch and materials)

How: Register Now (Attendees will be limited to 16 only!)

Application deadline: March 17, 2008

Complete the **Application Form** below and mail (or email) to:

Ms. Valarie Daugherty (Daugherty@pittcon.org)

SACP

300 Penn Center Blvd., Suite 332

Pittsburgh, PA 15235-5503

SACP 2008 HIGH SCHOOL SCIENCE TEACHER WORKSHOP APPLICATION FORM

NAME _____ SCHOOL _____

USPS MAILING
ADDRESS _____

EMAIL (PREFERRED) AND PHONE _____

The Colorful Chemistry of Iron in Chemical Analysis

This workshop is about the Beer's Law relationship between absorbance and concentration in UV-visible spectrophotometry, and its direct application to the colorimetric determination of iron. Iron is the fourth most abundant element in Earth's crust, and it is a principal component of hemoglobin in the blood of nearly all animals on the planet. Iron has been known and used by humans since the beginning of recorded history, and it was the chief metal of the Industrial Revolution. Today, iron is still an element of high interest in nearly all areas of human and natural activity, and its determination in a wide variety of sample types is well documented in the scientific literature. In this hands-on workshop, the participants will have the opportunity to determine iron in abandoned mine drainage or other type of samples, using one of a number of organic ligands that are employed for the colorimetric determination of iron. Participants will gain experience in construction of a calibration curve for the particular colorimetric method as well as learn more about Beer's Law, use of linear regression to obtain the relationship between absorbance and iron concentration, and determination of the limits of detection for their methods and much more!



Biographical Sketch: Dr. Mark Stauffer

Dr. Mark T. Stauffer is Associate Professor of Chemistry at the University of Pittsburgh at Greensburg. He received his B.S. (1979) and Ph.D. (1998) degrees in Chemistry from the University of Pittsburgh, and was employed by the Ethyl Corporation as an analytical chemist. Dr. Stauffer has held teaching positions at the University of Wisconsin-Madison, Shippensburg University, and Carnegie Mellon University. He joined the Pitt-Greensburg faculty in 2001 as an Assistant Professor of Chemistry, and was promoted to Associate Professor with tenure in 2007. Since 2002, Dr. Stauffer has managed a successful undergraduate research effort at Pitt-Greensburg that has, to date, involved over 30 students and produced over 15 oral papers and posters at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy plus other technical conferences, two publications in *Spectroscopy Letters* (40(3), 429-437 and 439-452), and a paper to appear in the *Journal of Chemical Education* this year. His research interests involve profiling of metals and anions in abandoned mine drainage and other natural waters, determination of metals in foods, beverages, and animal and human hair, phytoremediation of metals in waters and soils, UV-visible and atomic absorption spectrophotometry, electrochemistry, and analytical method development and validation. He is a member of the American Chemical Society, the SACP, and the SSP. He is currently President of the Pitt-Greensburg Faculty Senate and in July 2008, will begin a three-year appointment as Chair of the Division of Natural Sciences, Mathematics, and Engineering at Pitt-Greensburg.