

CINTACS



Newsletter of the Cincinnati Section of the American Chemical Society

February, 2011
Vol. 48, No. 5

Meeting Calendar

Feb. 9	Chemist of the Year Prof. Apryll Stalcup, UC @ Wingate by Wyndham & Meridian Conference Center
Mar. 9	Dr. Leonard Katz, SynBERC Joint with Dayton Section @ Savannah Center in West Chester
Apr. 13	Education Awards Night @ Northern Kentucky University
Apr. 16	Earth Day Celebration, Sawyer Point
May	Party Night [TBD]

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FEBRUARY MEETING

Wednesday, February 9th, 2011

**Wingate by Wyndham &
Meridian Conference Center**
**7500 Tylers Place Blvd.
West Chester, Ohio 45069**

Sponsored by Procter & Gamble

Cincinnati Chemist of the Year:

Professor Apryll M. Stalcup

Department of Chemistry
University of Cincinnati

Program

5:30 – 7:00 pm Registration

6:00 – 7:00 pm Social Hour: Beer, wine and soft drinks

7:00 - 8:00 pm Buffet Dinner: Chef's greens salad, Traditional Lasagna, Tortellini in Basil Cream served with Focaccia & Crusty Italian Bread with Butter & Herb-infused Oils, Tiramisu, Coffee, Hot & Ice Tea.

Fee: \$25.00 (\$15.00 students, emeritus, unemployed and new members)

8:00 pm Speaker: **Prof. Apryll M. Stalcup**

“Separation SCIENCE”

Register Online: Please register online at www.acscincinnati.org. Alternatively, you may email the webmaster at webmaster@acscincinnati.org to register. Deadline for registration is noon Monday, Feb. 7th.

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THE CINTACS NEWSLETTER**Vol. 48, No. 5 February, 2011**

Editor.....Kevin Ashley
Advertising.....Dan Esterline

CINTACS is published eight times a year (September through May) by the Cincinnati Section of the American Chemical Society. The submission deadline will be early-mid February for the March 2011 issue.

Electronic submission is strongly preferred. All materials should be sent to:

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From the Chair

I believe everyone enjoys being recognized. Whether it is for a job well done, graduating from high school or college, hitting the winning home run, helping someone in need, recognition is rewarding. Someone said “recognition and praise are high octane fuel for the soul”. Recognition fills the recipient with warm, positive feelings and pride; it inspires him/her to go the extra mile. In this issue of CINTACS fellow chemists are recognizing some of their peers for their expertise and contributions which will be celebrated during our February 9th meeting.

Congratulations to Professor Apryll M. Stalcup of the University of Cincinnati, Department of Chemistry on being the 2011 Chemist of the Year. Dr. Stalcup is an internationally recognized expert and leader in the area of separation science. Her scholarly contributions span the breadth of separation science and have also found practical applications. Her contributions are many across research, teaching and service to cite here. Dr. Stalcup's professional biography is included in CINTACS. Let's celebrate her award and learn about her research work at our February Meeting at the Meridian Conference Center in West Chester.

Congratulations to Mr. Robert E. Shumate of Procter and Gamble on being the 2011 Research Associate of the Year. Bob, as he is known, has a long list of accomplishments at P&G. He has maintained, improved and operated a high pressure chemistry lab at P&G for about 25 years. His ability to collaborate and meet customer needs for a variety of different chemistries – with an outstanding safety record – has lead to a number of patents and commercial successes in the market place. For more details read Bob's biography in CINTACS.

With a deep sense of gratitude, a special thank you goes to Phil Christenson, our Awards committee chair, and committee members for reviewing, judging the nominations received and making these awards possible. I also want to thank the nominators for investing the time and effort – during the busiest time of the year – on the outstanding nominations submitted. It is commendable and speaks volumes about you.

I want to take the opportunity and encourage you to please nominate outstanding teachers for our Teacher of the Year awards and our Outstanding Service to the section award, see inside newsletter for more details.

We are also recognizing in this issue the 2010 National Chemistry Week Poster Contest Winners sponsored by the Cincinnati ACS Section. The poster of Lisa Patterson detailing various elements and their effect on motion pictures went on to win first in the national poster contest! The first time we have had a winning entry for our Section. Thank you for your dedication and passion Jamie in leading a very successful NCW poster contest! For more details, Read Jamie Heimkreiter's complete report on page 8.

Synthetic Biology, the manufacturing of chemicals through metabolic engineering – is the topic of our joint meeting with the Dayton Section on March 9th at the Savannah Center in West Chester. The speaker is Dr. Leonard Katz from the Synthetic Biology Engineering Research Center (SynBERC). Do not miss this talk on a very interesting subject.

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February Monthly Meeting

Professor Apryll M. Stalcup
University of Cincinnati

“Separation SCIENCE”

Sponsored by Procter & Gamble

Wednesday, February 9, 2011

Wingate by Wyndham & Meridian Conference Center
7500 Tylers Place Blvd., West Chester, Ohio 45069

Directions:

From North:

Take I-75 South to Exit 22 (Tylersville Rd). Turn Right at light onto Tylersville Rd and travel for $\frac{1}{2}$ mile. Turn Right onto Tylers Place Blvd. Hotel is $\frac{1}{2}$ mile on right.

From South:

Take I-75 North. Take Exit 22 (Tylersville Rd). Turn left at light onto Tylersville Rd and travel for $\frac{1}{2}$ mile. Then turn right onto Tylers Place Blvd. Hotel is $\frac{1}{2}$ mile on right.

From West:

Take I-275 East to I-75 North. From I-75 North take Exit 22 (Tylersville Rd); Turn Left at light onto Tylersville Rd and travel for $\frac{1}{2}$ mile. Turn Right onto Tylers Place Blvd. Hotel is $\frac{1}{2}$ mile on the right.

From East:

Take I-71 North to I-275 West to I-75 North. From I-75 North take Exit 22 (Tylersville Rd). Turn Left at light onto Tylersville Road. Turn right at Tylers Place Blvd. Hotel is $\frac{1}{2}$ mile on the right.





Professor Apryll Stalcup

University of Cincinnati

Dr. Apryll Stalcup received her BS in chemistry from California State University-Sacramento in 1979. She worked as an analytical chemist at a small environmental consulting firm outside Washington, DC, before pursuing graduate studies at Georgetown University with Professor Daniel Martire. She obtained her PhD, specializing in Physical Chemistry, in 1988. While a graduate student at Georgetown University, she was supported as a Graduate Student Co-op Fellow at the National Institute of Standards and Technology on their Maryland campus where she worked with Dr. Lane Sander and Dr. Stephen Wise.

Dr. Stalcup was a Postdoctoral Fellow at the University of Missouri-Rolla with Professor Daniel Armstrong for two years prior to accepting an Assistant Professor position at the University of Hawaii-Manoa in 1990. In 1996, she moved to the University of Cincinnati where she was promoted to Full Professor in 2001. Current research involves exploring new separation methods based on surface-confined ionic liquids, understanding the mechanisms of both chromatographic and electrophoretic separations and nuclear forensics. Her group was the first to demonstrate the potential of sulfated cyclodextrin and heparin as chiral additives in capillary electrophoresis. The chiral separation work begun with heparin has recently led to the development of novel chiroptical methods for rapid characterization of heparin and related glycosaminoglycans. The research carried out in her group has resulted in over 100 publications including numerous book chapters, encyclopedia articles and one patent. She has served on the Editorial Boards of Chirality, Journal of Chromatography B: Biomedical Applications and The Analyst as well as the Advisory Board of Fresenius Journal of Analytical Chemistry, now Analytical and Bioanalytical Chemistry. She currently serves on the Editorial Board of Trends in Analytical Chemistry (TrAC) and on the Cincinnati Water Quality Advisory Board.

Dr. Stalcup was chosen Cincinnati Chemist of the Year because of her internationally recognized expertise in the area of separation science. Traditional chemical separation methods rely primarily on exploiting a single facet of all the potential ways in which molecules can interact. Professor Stalcup has been a leader in devising new ways to exploit multiple aspects of molecular interactions simultaneously to develop new approaches to chemical separations. In developing new approaches to chemical separations, she has made significant contributions across the breadth of separation science, from microscale to preparative scale and encompassing a range of separation platforms including capillary and preparative electrophoresis as well as high performance liquid chromatography.



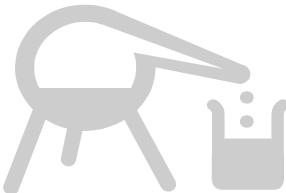
Robert E. Shumate, 2011 Cincinnati Research Associate of the Year

Robert E. Shumate received his Bachelor's Degree (majoring in Chemistry and Biology) from The Evergreen State College (1977) and studied at the University of Cincinnati both before and after that time. He began his professional career with The Hilton-Davis Chemical Company before spending the last thirty-three years as a chemistry researcher at Procter & Gamble's Miami Valley Innovation Center.

Bob has spent most of his P&G career in corporate R&D functions. His early work involved organometallic catalyst development and high pressure chemistry targeting improved process chemistry. His independent management of the Miami Valley Innovation Center's High Pressure Lab over the last twenty-five years has provided access to a valuable resource for P&G chemists. In this role Bob provides a Company resource for hydrogenations, hydroformylations, alkoxylation (ethylene oxide, propylene oxide, etc.), and various other chemistries employing reactive gases and experiments involving higher temperatures and pressures. These capabilities provide broad support in process research, organic synthesis, and physical property studies. He has provided materials and data for a wide range of internal research projects along with proof-of-concept data that have guided interactions with external suppliers. His contributions to process research studies have led to the commercialization of several surfactants.

Bob has always taken the initiative to provide constant improvements to the high pressure facility to grow P&G's research capabilities. This has included converting reactor systems over to computer controls to provide improved control, monitoring, productivity, and safety. He has also adapted his reactor control systems to other systems for colleagues. This has included an automated polymer synthesis system and several controlled-atmosphere chambers.

Bob is recognized as an excellent colleague, collaborator, and as a valuable research asset at P&G. He has contributed to 14 patents and three journal publications. Bob was recently honored with an ACS Technical Achievement in Organic Chemistry Award at the Fall 2010 ACS meeting in Boston.



Separation SCIENCE

Prof. Apryll M. Stalcup
Department of Chemistry
University of Cincinnati

Separations are often required to isolate a product or determine product purity. Separations are also used extensively in the analysis of biological or environmental samples as well as an auxiliary method for the determination of reaction rate constants or binding constants. In many respects, chromatography and related separation techniques such as electrophoresis are often viewed as trivial, mature techniques, a necessary evil used in the pursuit of "real science". So how does one actually do "research" in separations? Where is the "science" in separations?

Traditional chemical separation methods rely primarily on exploiting a single facet of all the potential ways in which molecules can interact. However, molecules are seldom so well-behaved with each other in the liquid or gas state so as to interact through only one interaction mode. The same intermolecular interactions responsible for the phase behavior of pure substances (e.g., dispersion, hydrogen bonding, dipole-dipole, dipole-induced dipole, electrostatic, etc) can be creatively exploited to accomplish the desired separations. Further, separation techniques are also incredibly sensitive tools for investigating and amplifying subtle differences in intermolecular interactions. In some ways, the separation system reflects the global interactions between the solute and the separation system, which acts as a molecular amplifier of these interactions. Examples from current research will be used to illustrate these points.

VISIT THE ACS CINCINNATI SECTION ONLINE:

www.acscincinnati.org

Second call for Science Fair Judges for University of Cincinnati Science & Engineering Expo on March 12

We would like to remind everyone of the opportunity to serve as a science fair judge at the 7th Annual University of Cincinnati Science & Engineering Expo (SEE) on March 12th, 2011. There will be a training session for the judges in the morning. Breakfast, lunch and complimentary parking will be provided. The organizers ask that each judge have a bachelors degree (or higher) in a science or engineering field. They are also interested in getting local teachers involved in the judging.

The Cincinnati ACS Section will sponsor **\$300 in awards** for the Science Fair.

To register online as a science fair judge, please go to:

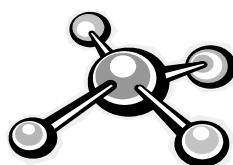
www.uc.edu/ScienceFair/registration/JudgeRegistration.aspx

For further information please contact:

John Tebo
Head, Chemistry-Biology Library
Science Fair Steering Committee Member
University of Cincinnati
513-556-1494
john.tebo@uc.edu

For additional info on the science fair, go to:

www.uc.edu/sciencefair



(Continued from page 2)

Next month our section will begin identifying candidates for local section officers and other Executive Committee positions. Please consider running for these positions or identifying colleagues you would support on these positions. The Cincinnati ACS Section serves its members and the Tri-State community through its outreach program which is nationally recognized. Our efforts, reach and impact are as effective as our active members make it possible; get involved, give what you have. Susan Hershberger is head of the nominating committee; I encourage you to get in touch with her.

"You must give some time to your fellow men. Even if it's a little thing, do something for others – something for which you get no pay but the privilege of doing it"

– Albert Schweitzer

I look forward celebrating Chemistry and Chemists with you at the February Meeting.

Victor M. Arredondo

SPONSORS SOUGHT FOR 8 SECTION MEETINGS IN THE 2010-2011 PROGRAM YEAR

Again we are seeking sponsors for each of our 8 monthly Section Meetings in the new program year. Sponsorship entails a commitment of sponsorship (cash or cash equivalent) of \$1000 to essentially pay for the many expenses associated with a quality meeting to be presented to the membership. These expenses include retiree and student meal discounts, speaker's expenses, travel, housing, food, A/V, room rental for the meeting, and a Social Hour where attendees can meet others and build networks and contacts for career growth and enhancement.

Sponsors are recognized in all of the eight yearly issues of CINTACS, and by introduction at the sponsored meeting. This "advertisement" is of great value, especially to new companies in the Cincinnati area. In several instances this has led to participation in governance activities in the Section.

(Continued on page 7)

Call for Nominations: Outstanding Service Award

Nominations are being accepted for the Cincinnati ACS Section Outstanding Service Award. The nominee should have performed an extraordinary service to the Cincinnati Section. The nominator should be a member of the Section. A complete nomination consists of a letter written by the nominator detailing the reasons the nominee is deserving of the award, and at least one supporting letter by another member of the Section. The nomination may include the nominee's CV.

Nominations are due by **March 11, 2011**

Call for Nominations: Teacher of the Year Awards

Each year the Cincinnati Section of the American Chemical Society (ACS) recognizes outstanding area educators by giving awards in the following categories:

- High School Chemistry Teacher of the Year
- Middle School/Junior High School Science Teacher of the Year
- Elementary School Science Teacher of the year

Nominations should include the teacher's CV and at least one letter of nomination (ideally from the school principal), indicating why the individual exemplifies excellence in Chemistry Education (for High School) or Science for Middle or Elementary School.

Nominations are due by **February 18, 2010**

Nomination materials for both of the above awards should be sent to:

Philip A. Christenson, Ph.D.
phil.christenson@givaudan.com

or

Givaudan Flavors
1199 Edison Dr
Cincinnati, OH 45216

2010 NATIONAL CHEMISTRY WEEK



Local Poster Contest Winners *“Lisa Wins National!”*

As a part of National Chemistry Week that was held in October 2010, the local Cincinnati Section of the American Chemical Society sponsors a poster contest for local students to express their creativity and artistic ability while focusing on a chemistry theme. This year the contest was based on **“Behind the Scenes with Chemistry.”** The poster was to be fun, motivational and inspire students to learn about the chemistry of the special effects used in movies and television.

One winner was selected for each grade category (K-2nd grade, 3rd- 5th grade, 6th-8th grade, and 9th-12th grade) for the section. The judging criteria was based upon artistic merit, the message, originality, and neatness. The winners are as follows:

Category	3 rd – 5 th grade	6 th -8 th grade	9 th - 12 th grade
1 st Place Winners	Cameron Ngom	Shakenda Giles	Lisa Patterson
Grade	4th	8th	11th
Represented School	Cincinnati Hills Christian Academy	Mt. Healthy Junior High	Highlands High School
Location	Cincinnati, OH	Mt. Healthy, OH	Fort Thomas, KY

The first place winners along with their teachers and parents will be honored as guests of the local section at the Awards Banquet dinner /meeting on April 13, 2011, at the Northern Kentucky University. Their teacher will need to email jheimkreiter@petercremerna.com with their contact information and to obtain further details.

The section also submitted the winning posters to the National ACS poster contest in Washington, DC. The national winners are now listed on the national ACS website.

For the first time, we had a winning entry for our Cincinnati Section. Lisa Patterson's poster detailing various elements and their effect on motion pictures won first in the national poster contest! Lisa will receive a cash award of \$100.00 and her teacher, Mrs. Del Ehemann at Highlands High School will also receive a prize for allowing her students to participate.

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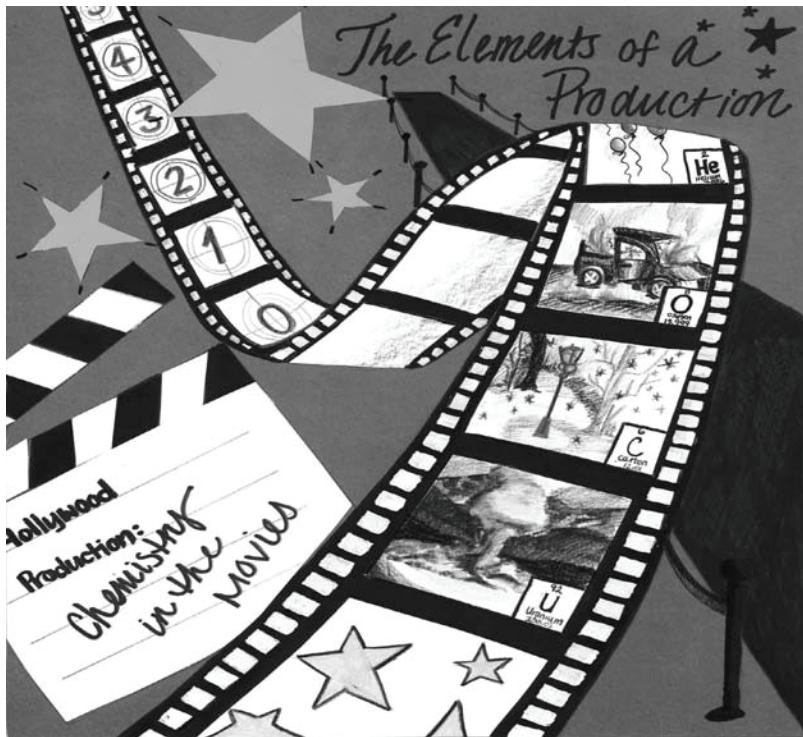
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We would also like to recognize selected posters for honorable mention within our section. They will receive a certificate in the mail to their respective school in April 2011. The students are:

Malea Jackson, 4th grade, CHCA Armleder
Kolby Toney, 4th grade, CHCA Armleder
Jessica Petri, 12th grade, Madeira High School
Alyssa Federle, 11th grade, Highlands High School
Olivia Fitzpatrick, 10th grade, Archbishop McNicholas High School
Sarah Fischer, 9th grade, Madeira High School
Josh Harness, 11th grade, Archbishop McNicholas High School
Erin Deye, 12th grade, Villa Madonna Academy

Parents, Educators: Although it was exciting to have a national winner from our section, we were very pleased with all of the posters that were submitted. Thank you for being a part of the contest and encouraging your student to participate. Our children are the greatest investment into our future.

American Chemical Society
Cincinnati Section
Jamie N. Heimkreiter
Contest Committee Chair



Part of Lisa Patterson's winning poster

HUGHES STEM HIGH SCHOOL

Science, Technology, Engineering & Mathematics

Science Tutors Needed

Volunteer Opportunity:

Science Tutors are needed to support high school students in Cincinnati as part of a unique and innovative STEM education program.

What is STEM Education:

The acronym stands for courses in the broad fields of Science, Technology, Engineering and Math.

What is the Problem:

The U.S. is falling behind other countries (*it ranks 60th among all nations*) in the fraction of college graduates who receive degrees in the sciences or engineering, and pursue STEM-related careers.

Hughes STEM High School & Science Tutoring Program:

Hughes STEM High School is one of five Ohio schools selected in a pilot program to focus on STEM education. The Science Tutoring Program is aimed at helping Hughes science teachers and their students to increase science content knowledge and learn more about STEM careers.

Educational Collaboration:



Hughes STEM High School is an exciting new collaboration between the University of Cincinnati (UC) and Cincinnati Public Schools, with support from Strive (nonprofit education partnership) and the Ohio STEM Learning Network (osln.org). Hughes is located across from the UC campus.

You can Make a Difference:

Join a unique program that connects volunteer scientists, professionals, engineers, etc., with high school students in order to help them excel in the sciences and feel motivated to pursue college degrees and careers in STEM-related fields.

Criteria for Volunteer Tutors:

- College degree in STEM-related subject.
- Career in STEM-related field, either retired or currently employed.
- Willing to commit 1 hour per week to tutor.

How to Volunteer:

If you are interested in volunteering, inquire at:

- Email: hughes.science.tutors@gmail.com
- Website: <http://hughesstem.cps-k12.org/>
- Video: <http://got.im/52000>

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ACS Meeting Price**

Statistical Analysis of Laboratory Data

Stephen Morgan, Stanley Deming, Instructors

Monday through Wednesday, May 23-25, 2011

**Mason Business Center – The Procter & Gamble Company
8700 Mason-Montgomery Road, Mason Ohio**

Overview

Master the fundamentals of laboratory data treatment to solve data analysis problems. Through a combination of lectures and problem-solving sessions, this course will teach statistical techniques that can be put to immediate use in the workplace. Participants will learn how to understand the strengths and weaknesses of data, recognize and reduce different types of errors, carry out significance tests, correctly use outlier tests, and more.

Who Should Attend?

Technicians, scientists, engineers, laboratory managers, R&D managers, manufacturing and production managers, and others who need to understand traditional and modern methods of data analysis. This course assumes no previous knowledge of statistics and is aimed at both beginning and experienced workers. Each participant should bring a hand-held calculator to the course.

How You'll Benefit from This Course

Consult with seasoned experts about your data analysis problems.

Enhance your ability to extract more meaningful data from your data sets.

Gain confidence in the use of basic statistical methods.

Improve your decision-making abilities.

Learn new ways to look at data.

Reduce the number of measurements required for certain applications.

Understand statistical terminology and be able to communicate more easily with statisticians.

About the Instructors

Stanley N. Deming is Professor Emeritus of Chemistry at the University of Houston, Houston, Texas and teaches Experimental Design for Productivity and Quality in Research & Development and Statistical Analysis of Laboratory Data

Stephen L. Morgan is Professor of Chemistry at the University of South Carolina, Columbia, South Carolina and teaches Experimental Design for Productivity and Quality in Research & Development and Statistical Analysis of Laboratory Data.

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Course Topics

Measurement	Accuracy and Precision	Means
Standard deviation	Pooling	z Decisions
Confidence intervals	Statistical samples	Outliers
One-way ANOVA	Central limit theorem	p values and power
Statistical testing	Algebra and logic	Hypothesis testing
Formal statistical tests	One-sample t test	Two-sample t test
Paired t test	Fisher's F test	Duncan's multiple range test

Optional topics: Detection limits; Statistical process control; Bioassays

Date and Site

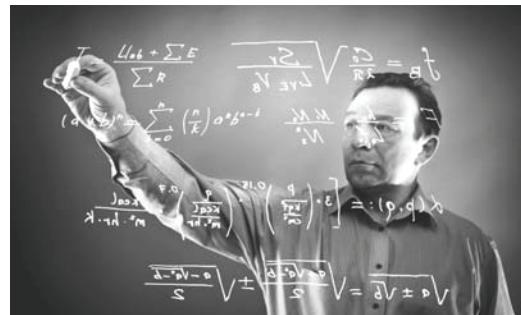
May 23-25, 2011, this is a 3-day course. Location: Mason Business Center (formerly Health Care Research Center) -- The Procter & Gamble Company, 8700 Mason-Montgomery Road, Mason, Ohio 45040. Check-in at 7:30 a.m. on the first day of the course and the course runs from 8:30 a.m. to 5:00 p.m. each day.

Registration and Fees

The course fee will be approximately \$900 for ACS members or \$1000 for non-members (the exact fee may vary depending on the number of registrants). This is approximately 50% of the cost of the same course at a National ACS meeting (\$1795). The fee will include course materials, continental breakfast, lunches, and refreshment breaks. Seating will be limited to 30 people. To reserve a seat, please send an e-mail to Rick White (white.dr.2@pg.com) or call (513) 622-1624 and leave your name, affiliation, phone number and ACS membership status. Registration information will be sent to you by email. **Please notify of your intent to register for the course by Fri, April 1.**

For further information please contact:

Dr. Rick White
 The Procter & Gamble Company
 Mason Business Center, Box 705
 8700 Mason-Montgomery Road
 Mason, Ohio 45050
 tel. 513-622-1624
 e-mail: white.dr.2@pg.com



(Continued from page 7)

Over the past six years of this successful program, companies, academic departments, retirees, and faculty have been sponsors of monthly meetings. We are always striving to broaden the base of sponsors as this leads to better representation in Section programs and services to the membership.

If you or your employer has an interest in being a sponsor, please contact the undersigned for more details. Beyond these volunteers, we will be making phone calls and letter contacts to reach our goal of eight sponsors. Every effort will be made to align the Sponsor's areas of interest with our monthly topics.

Currently contact Dan Esterline at: Daniel.Esterline@Thomasmore.edu

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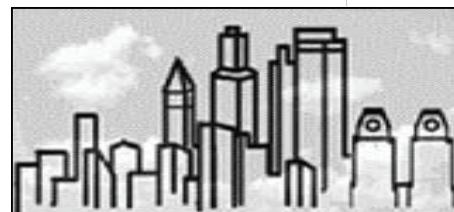


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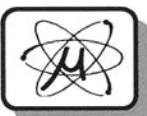
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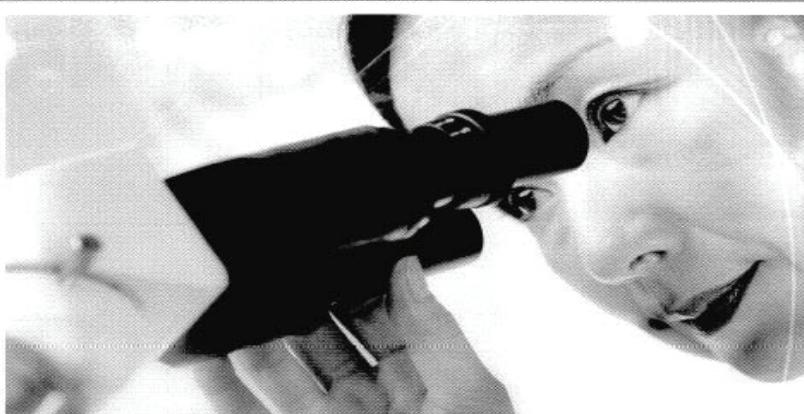
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