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the Catalyst

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Dr. Scott Woodward Reconstruction of Ancient Genealogies in Egyptian Mummies

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# the Catalyst

# Official Publication of the Philadelphia Section, American Chemical Society Founded April 15, 1899

Volume 91, No. 7

September 2006

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#### ADVANCE NOTICE

#### **OCTOBER MEETING**

Philadelphia Section Award

Dr. Patrick J. Walsh University of Pennsylvania THURSDAY, October 19th, 2006

See the OCTOBER issue of *the Catalyst* for details, Call the Section Office at (215) 382-1589, email PhilaACS@aol.com

#### From The Chair

#### Deborah E. Kilmartin

Fall is an interesting time of the year; the dying of the leaves in spectacular glory while teachers and students begin a new school year full of hope that things will surely be better this year.... As I am sweltering in heat of a summer day in an un-air-conditioned office. I remember those hopes of years gone by (too many at my age!) and how few were actually realized. But like this September, hope always outweighs the disappointments that reality throws in my life. I hopes that we would have a glorious meeting with Dr. Scott Woodard talking about the DNA of King Tut's family in the University of Pennsylvania Museum of Archaeology and Anthropology followed by an exotic dinner in the Lower Egyptian Room surrounded by the glories of ancient Egypt! But the realities have already hit — dinner would be upwards of \$100 per person! And no fairy godmother of a sponsor to pitch in \$5000 or so. So we go to the fall back position — we still have the FREE lecture in the Lower Egyptian Room but dinner is optional at the Museum Café. Dinner will still be what I consider expensive (about \$50 or so, see the information on the meeting page in this issue), and the ambiance will be more "sardine can" than "Egyptian Kings and Goddesses" but we will still have the thrill of hearing of cutting edge science —anthropological DNA—surrounded by the mystique of ancient Egypt. Please come out for the lecture and bring a friend and several high school and college students! This lecture should be interesting for those interested in archaeology, DNA and forensics, genealogy, and unusual chemistry! Sure to be worthwhile to attend! Maybe it will have a bit of "sardine can" about the lecture too — or should I say sardine amphorae? Oops, wrong era. Come out and enjoy the lecture with us!

For those teachers out there, and students of chemistry too, we have a special meeting on September 27<sup>th</sup> also at the University of Pennsylvania, on "Using Toys Creatively in Chemistry." See this issue for more information.

As of this writing, the "bubble wars" are still ongoing but the "ice cream-making socials" were just great. If only we could figure out a way to barbecue as well, it would be perfect summer fun.

Today's favorite email — "Today is International Very Good Looking, Darn Smart Woman's Day, so please send this message to someone you think fits this description. Please do not send it back to me as I have already received it from a Very Good Looking, Darn Smart Woman! And remember this motto to live by: Life should NOT be a journey to the grave with the intention of arriving safely in an attractive and well preserved body, but rather to skid in sideways, chocolate in one hand, wine in the other, body thoroughly used up, totally worn out and screaming "WOO HOO what a ride!" Have a wonderful day!"



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#### SEPTEMBER MEETING

#### THE PHILADELPHIA SECTION, AMERICAN CHEMICAL SOCIETY

#### presents

# Reconstruction of Ancient Genealogies in Egyptian Mummies

Dr. Scott R. Woodward Sorenson Molecular Genealogy Foundation

Thursday, September 21st, 2006 6:00 PM Lecture is FREE, reservations requested

> Lower Egyptian Gallery University of Pennsylvania Museum 3260 South Street Philadelphia, PA Enter by the Trescher Entrance

Dinner following the lecture at the Museum Café 3420 Sansom Street, Cost: \$50.00

LECTURE AND DINNER RESERVATIONS should be made by calling Mrs. Libby Harper at the Section Office, (215) 382-1589, or emailing PhilaACS@aol. com by 5:00 PM on Thursday, September 14<sup>th</sup>. Cancellations, if necessary, cannot be accepted after NOON on Tuesday, September 19<sup>th</sup>. UN CANCELLED RESERVATIONS WILL BE BILLED.

**DIRECTIONS** and **PARKING**: see http://www.museum.upenn.edu/; Lot 7 and Penn Tower Garage are adjacent to the museum on Convention Avenue.

The Board of Directors will meet at 4:00 PM at the Makineni Room of the Chemistry Building (260 in the Cret wing), University of Pennsylvania.

#### SPEAKER BIOGRAPHY

Scott R. Woodward, Sorenson Molecular Genealogy Foundation

Scott R. Woodward is currently the President and Chief Scientific Officer for the Sorenson Molecular Genealogy Foundation and the Principal Investigator for the Molecular Genealogy Research Project. He received his PhD in genetics from Utah State University in 1984. He did postdoctoral work in molecular genetics at the Howard Hughes Medical Institute at the University of Utah. While at the University of Utah he discovered a genetic marker used for the identification of carriers and the eventual discovery of the gene for cystic fibrosis. He was also involved with the identification of other gene markers for colon cancer and neurofibromatiosis.

From 1989 to 2005, he was a faculty member of the microbiology department at Brigham Young University. While at BYU he has been involved with the Seila, Egypt excavation team, directing the genetic and molecular analysis of Egyptian mummies, both from a commoners' cemetery and of the Egyptian Royal mummies. His research interests include the reconstruction of ancient and modern genealogies using DNA techniques with samples from all over the world, the tracing of human population movements by following gene migrations (including both Old and New World populations) and the DNA analysis of ancient manuscripts including the Dead Sea Scrolls. He has been the Scholar in Residence at the BYU Center for Near Eastern Studies in Jerusalem and a visiting professor at Hebrew University. His work has been featured both nationally and internationally on numerous programs including Good Morning America, Discovery and the Learning Channels.

#### THOUGHT TO PONDER

"Success in life has nothing to do with what you gain in life or accomplish for yourself. It's what you do for others."

- Danny Thomas

#### **NEWS ATOMS**

#### **HONORS AND AWARDS**

**Rebecca Arvary** was awarded a Penn Prize for excellence in teaching by graduate students in chemistry at the University of Pennsylvania. A U of P Dean's award for distinguished teaching by graduate students went to **Lázló Kürti** in chemistry.

Eric Meggers, assistant professor of chemistry at Penn, received a 2006 Sloan Research Fellowship, and will be honored with the 2006 Camille Dreyfus Teacher-Scholar award recognizing research accomplishments. David Christiansen, Roy and Diana Vagelos professor in chemistry and chemical biology at Penn, was named a Guggenheim Fellow for 2006. Amos Smith, Rhodes Thompson professor of chemistry at U of P, was elected to the American Academy of Arts and Sciences.

**Ryan Dirkx** was appointed vice president R&D of Arkema. 50-year ACS member **Roger F. Jones** of Franklin International is author of the recently published ACS Symposium Series No. 942, *The Chemical Industry and Globalization*.

Recently retired professors of biochemistry in Penn's school of dental medicine are **Phoebe Leboy** and **Daniel Malamud**.

Britton Chance, Eldridge Reeves Johnson University Professor Emeritus of biophysics, physical chemistry and radiologic physics at Penn received a 2006 gold medal for distinguished service to radiology from the American Roentgen Ray Society.

#### **DEATHS**

Conard K. Donnell, former chemist with Sun Oil Co., March 14<sup>th</sup> at 88. He was a 66-year member of ACS. Donnell worked on development of high-octane aviation fuel and in-line process analyzers for refineries. After retiring from Sun he was a technical services engineer for Fluid Data. Both he and his wife were docents at the Philadelphia Zoo.

**Horst Otto "Herm" Bayer**, formerly with the chemistry department of Purdue University, April 3<sup>rd</sup> at 71.

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Elizabeth C. Travaglini, retired researcher and editor formerly with Fox Chase Cancer Center, April 18th at 79. She joined Fox Chase in 1952. From 1983 until she retired in 1994, she edited the firm's annual scientific report.

**James A. Connell**, retired chemical engineer formerly with Arco, April 30<sup>th</sup> at 75. He joined Atlantic Refinery in 1953 as an analytical chemist, and later moved to Catalytic Engineers where he designed petrochemical and pharmaceutical plants. In 1976 he returned to Arco and retired in 1984. Following retirement he continued to be a refinery consultant.

Robert T. Bogenrief, chemical engineer formerly with Rohm and Haas, May 1<sup>st</sup> at 91. From 1938 to 1947 he worked for Reilly Tar and Chemical before moving to Rohm and Haas in 1947, where he was an area manager until he retired in 1979. He was a 69-year member of ACS. He served as a loaned executive to the United Way of Southeastern Pennsylvania.

Vincent J. Cristofalo, professor emeritus of biochemistry in the department of animal biology at the University of Pennsylvania, May 8<sup>th</sup> at 73. He joined the Wistar Institute in 1963 and was appointed assistant professor of biochemistry at Penn's School of Veterinary Medicine. In 1980 he was founder and first director of Penn's Institute on Aging. He retired from the Wistar Institute and Penn in 1990.

Cristofalo also served as president of Lankenau Institute for Medical Research, vice provost for research at the Medical College of Pennsylvania and Hahnemann University, director of the Allegheny Health, Education and Research Foundation Institute on Aging and the Center for Gerontological Research at the MCP Hahnemann School of Medicine. He coauthored over 230 technical papers and edited several books. He was a past president of the American Federation for Aging and Research and the Gerontological Society of America.

**Eugene Grebner**, biochemist formerly with Thomas Jefferson University, May 11<sup>th</sup> at 75. Following service in the Korean War he worked in the Army microbiology lab in Maryland and after earning advanced degrees,

he received an NIH grant to conduct research at Albert Einstein Medical Center. He joined the medical genetics group at Jeff in 1975 as associate professor and laboratory director of the Tay-Sachs prevention program, retiring in 1996. He was a director of the Upper Moreland Library.

**Edwin E. Tuttle**, former president of Pennwalt Corp., May 19<sup>th</sup> at 79. He joined Pennwalt in 1951 and later was responsible for chemical operations worldwide. He was named chief executive in 1978. He retired from Pennwalt in 1990 when it merged with Atochem.

Tuttle was a generous benefactor in the arts community in Philadelphia and joined the board of the Pennsylvania Ballet in 1977. He became chairman of the board in 1983 and chairman emeritus in 1990. He also served on the boards of banks and other corporations as well as the United Way.

Norman J. Santora, former medicinal chemist and chemical information specialist, May 28th at 70. He worked for William H. Rohrer from 1968 to 1983 and then joined SmithKline from 1983 to 1991. From 1991 until he retired in 1997 he was with R.W. Johnson Pharmaceutical. He was active in the Chemical Consultants Network.

Santora was a member of the ACS Chemical Information Group and provided continuing education programs for CIG and the Philadelphia Section. He also served on the web page committee of the International Society for Patent Information. Norman enjoyed chess and teaching computer and math courses to students in his community. To assist in the latter interest he wrote the book Math Fun: A Guide for Teachers, Parents, & Mentors of Grade School Children.

Adelaide M. Delluva, emeritus biochemistry professor at the University of Pennsylvania school of veterinary medicine, May 31st at 88. Shortly after earning her doctorate at Penn she joined the university as instructor of biochemistry, and was named assistant professor in 1954. In 1969 she joined the department of animal biology in the School of Veterinary Medicine and was named full professor in 1978.

Delluva served as associate dean for student affairs from 1979 to 1987. In addition to her teaching responsibilities she was an activist in the areas of affirmative action for women and minorities, campus safety, and services for the handicapped. She was named professor emeritus in 1988 but continued to teach and work at the campus. She spoke five languages and counseled international students. She was also an accomplished pianist and harpsichordist.

Lester E. Folkenson, Jr., retired chemist, June 1st at 81. He was a chemist for Patterson Parchment Company, and for 20 years an environmental chemist for the State of New Jersey. He was an avid lifelong baseball fan.

Elinor Hankins Owens, retired chemist, June 7<sup>th</sup> at 82. She joined Rohm and Haas where she was one of half a dozen women scientists employed there. After marrying Frederick Owens of Rohm and Haas, she raised a family and later worked part time for Brewan Laboratories

Owens was active in the Philadelphia Section ACS serving on the publications committee and as editor of *the Catalyst* 1974-1977. She received the section's service award in 1978. She was a volunteer with the Friends of the Southampton Free Library where she was recording secretary.

#### Technology Analyst/Writer

An energy consulting and information services firm located in a Philadelphia Suburb is looking for a candidate to perform literature search, patent analyses, and technical writing. Chem. or chem. engrg. major and excellent writing skills are required. Email a resume to info@hydrocarbonpublishing.com

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## Success Factors for a Consulting Practice in Chemistry

#### Dr. William C. Golton Vice President, The CECON Group, Inc.

**Date & Time**: Wednesday, September 13<sup>th</sup>, 2006 at the Cynwyd Club, Bala Cynwyd, PA; Networking, 5:30 PM; Dinner, 6:30 PM; Talk and Business Session, 7:30 PM.

**Abstract:** Various issues need to be considered to succeed as a consultant. This talk is aimed at stimulating discussion on what chemical consultants do, defining your clients, preparing a good résumé, marketing your services, how much to charge, legal and tax considerations.

Biography: APhD in Analytical Chemistry, Bill retired from DuPont in 1994 and became a consultant. While at DuPont, he managed a large analytical and physical measurement group, started and managed the quality program for a \$2 billion business, and late in his career, moved to the pharmaceutical business to run an important corporate LIMS project. Bill currently is on the staff of The CECON Group, a broker for independent consultants in science and engineering. Bill is a founder and past president of the Chemical Consultants Network.

Reservation: To make or cancel a dinner reservation, e-mail CCNReservations@ aol. com or call the ACS office at 215-382-1589 (leave message on voicemail if necessary). Fee, including food and beverages, is \$35. Early Bird discount price is \$25 if reserved by Thursday, September 7th. Late reservations and walk-ins subject to availability. No-shows will be invoiced. Please advise of any special dietary requirements.

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#### 581<sup>ST</sup> BOARD OF DIRECTORS MEETING Wednesday, April 19<sup>th</sup>, 2006 McCall Meeting and Conference Center Upper Darby, PA

**Present:** D. Kilmartin, V. Tortorelli, M. Cichowicz, T. Straub, A. DeMasi, K. Shaginaw, R. Gates, J. Summers-Gates, G. Molander.

**Excused:** D. Cichowicz, Sr. R. Mulligan, D. Cook, C.J. Bruner, E. Davis, D. Thomas.

**Absent:** C. Bentzley, A. Templeton, C. Rulli, J. Nikelly, D. Voet.

Also Present: L. Harper.

The meeting was called to order by Chair Kilmartin at 4:18 PM.

March minutes: The minutes of the March 2006 meeting were discussed, but could not be approved as there was no quorum.

#### **COMMITTEE REPORTS:**

Philadelphia Section Awards: D. Cichowicz reported (via L. Harper) that John Tierney (Penn State, Delaware County) is the candidate selected for the Merck Award for College Teaching. As Dave's report constitutes a motion, the Board approved his candidacy.

#### **OFFICERS' REPORTS:**

#### Chair (D. Kilmartin):

Teleconferencing at McCalls – the charge for using an outside line for teleconferencing at McCalls is \$25.00 L. Harper will contact Allen Templeton and determine if he is willing to provide a dial-in number for the May Board meeting which will also be held at McCalls.

Deb has been invited to the dedication of Philadelphia City Hall as a National Historical Civil Engineering Landmark.

Dr. Will Smith (Bristol High School) has piloted a High School Chemistry Club. The group meets monthly and consists mostly of  $11^{th}$  and  $12^{th}$  grade students.

The Board discussed expenses for the September meeting.

Chair-Elect (D. Cichowicz): No report. Secretary (A. DeMasi): No report. Treasurer (C.J. Bruner):

The Board discussed the Treasurer's report in C.J. Bruner's absence. D. Kilmartin mentioned that she will break down the costs between the Social and Program Committees. Deb also thanked the University of Pennsylvania for sponsoring the social hour at the Edgar Fahs Smith lecture.

#### OTHER BUSINESS:

T. Straub mentioned that the Chemistry Olympiad will be held at LaSalle University on April 22<sup>nd</sup>, 2006. Twenty-three students representing 14 schools will participate.

V. Tortorelli reported that the ISC Conference will be held at Ursinus College on April 22<sup>nd</sup>, 2006. Joe DeSimone will be the keynote speaker. Fifty-five undergraduate papers will be presented and nine concurrent sessions held.

There being no other business, the Board meeting was adjourned at 5:00 PM.

Respectfully Submitted, Anne S. DeMasi Secretary

#### 2006 Election Slate

Chair-Elect: Ella Davis

Judith Summers-Gates

**Treasurer:** Carol Jean Bruner

**Directors:** Deborah Cook

James Falcone Maurine Falcone Matthew Milkevitch Russell Phifer Michael Prushan

Amanda Sinha Judith Summers-Gates

Denise Thomas John Tierney

**Councilors:** Anthony Addison

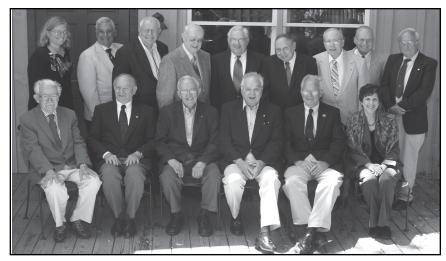
Cassandra Burcham Judith Currano Ella Davis Anne DeMasi Robert Gates Sharon Haynie Deborah Kilmartin Kathryn Lysko Matthew Milkevitch

Russell Phifer

Judith Summers-Gates

John Tierney

A ballot is mailed September 1<sup>st</sup> to every section member. If you do not receive your ballot by September 15<sup>th</sup>, please get in touch with the section office for a replacement. (PhilaACS@aol.com or 215 382-1589).



2006 Fifty-Year Members at the Chadds Ford Winery on June 15th: front row, I to r: Philip George, Ray Dietrich, Russell Bishop, Michael Seidel, Walter Platek, and Madeleine Jacobs, ACS CEO. Back row, I to r: Katie Hunt, 2006 ACS President-Elect, Charles Fleischmann, Jack Kay, Peter Carlson, Melvin Fisher, James O'Mara, Donald Robinson, Jerry Brenner, and Gilbert Witschard.

#### SCHOLASTIC ACHIEVEMENT AWARD WINNERS, 2006

Christina Tan Hillary Smith

Arcadia University Bryn Mawr

Delaware Valley College Kathleen Monaco

Halla Suleiman
Drexel University Sujeet Govindan (Chemistry)

Drexel University Chong H. McLaren (Chemical Engineering)

Factors University Disa Great (Chemical Engineering)

Eastern University Disa Grant (Chemistry)

Jonathan Goodwin (Biochemistry)

[averford College James H. Nelson]

Haverford College James H. Nelson
LaSalle University Katharine A. Prokop
Rosemont College Casey Lafferty

Rutgers, The State University Joseph R. Del Palazzo, Jr.

St. Joseph's University Jaime L. Sworen

Swarthmore College Xin Wu
Temple University Alexander S. Augustine

Ryan Centafont

University of Pennsylvania Rachel A. Kohn (Chemistry)
University of the Sciences Alexander Khrizman (Chemistry)

In Philadalahia

Eliza Automieth (Piaghamistry)

in Philadelphia Elise Autenrieth (Biochemistry)
Ursinus College Steven T. Morris

Villanova University Michael W. Giuliano (Chemistry)
Villanova University Philip Shodder (Chemical Engineering)

West Chester University Eric Anderson

Widener University Chris Blaszkowski (Chemistry)
Widener University Caleb Young (Chemical Engineering)

See the photo on page 114.

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#### DELAWARE VALLEY MASS SPECTROMETRY DISCUSSION GROUP

**Speaker:** Professor Hilkka Kenttämaa, Purdue University.

**Topic:** Laser-induced Acoustic Desorption/ Chemical Ionization Mass Spectrometry.

**Location:** Villanova University Chemistry Department, Mendel Hall Room 154.

**Date:** Monday, September 11<sup>th</sup>, 2006

**Time:** 6:30 PM social hour/networking, talk 7:30 PM.

Contact: PETUCCC@Wyeth.com

# MID-ATLANTIC REGIONAL MEETING (MARM) VOLUNTEER OPPORTUNITY

The Philadelphia Section is sponsoring the 2007 Mid Atlantic Regional Meeting (MARM07). The effort is under the leadership of Vic Tortorelli and Sharon Haynie. The operating committee is now being formed and there are many opportunities to get involved in this exciting venture. We are particularly looking for individuals to help with fund-raising.

Want to become active in the Section and don't know how? Have a skill or talent and want to make use of it? Willing to participate in or take care of just one project? This is the perfect opportunity to get involved and help yourself to the powerful networking opportunities provided by a Regional Meeting!

Most meetings of the operating committee are conducted by teleconference.

If you are interested just email or call Mrs. Libby Harper at the Philadelphia Section Office: PhilaACS@aol.com or 215-382-1589.

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#### BOOSTING LEVELS OF HEALTHFUL NUTRIENTS IN WATERMELON

Whole watermelons stored at 70°F roughly room temperature in air-conditioned environs have substantially more healthful nutrients than refrigerated melons, US Department of Agriculture scientists report. Watermelon is a rich source of carotenoid compounds, natural antioxidants linked to a variety of health benefits.

Penelope Perkins-Veazie and Julie K. Collins realized that there were no data on changes in lycopene and other carotenoids in watermelon during storage. They analyzed carotenoid content in several popular varieties of watermelon stored for 14 days at various temperatures. Their findings are scheduled for the August 9th issue of the ACS' *Journal of Agricultural and Food Chemistry*.

Compared to freshly-picked fruit, watermelon stored at 70° F gained 11-40% in lycopene and 50-139% in beta carotene. Carotenoids in watermelon stored at 55° and 41° F, in contrast, remained about the same.

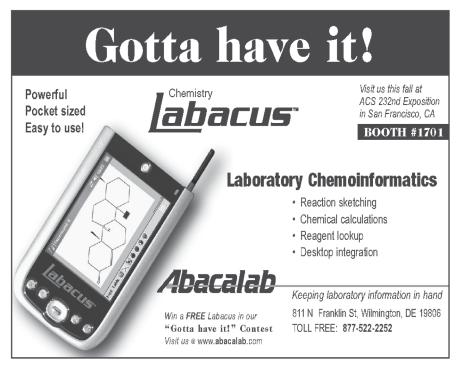
#### ARSENIC LEACHING REMAINS A PROBLEM IN MULCH MADE FROM RECYCLED WOOD

New research challenges the idea that colorant added to a popular kind of mulch prevents release of arsenic from chemically treated wood sometimes used to make that mulch.

Past studies have found that recovered wood at debris recycling facilities may contain up to 30% chromatid copper arsenic-treated (CCA) wood.

A colorant made from iron oxide usually goes into mulch made from recycled wood to give it the appearance of natural wood mulch. Iron oxide binds arsenic, which raised hopes that artificially colored mulch would not leach potentially harmful amounts of arsenic.

The new study, scheduled for the August 15th issue of ACS' *Environmental Science & Technology*, found that colorant reduced leaching of arsenic by more than 20%. However, leaching still exceeded regulatory guidelines and the effect lasted only for the first few months after mulch application.



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#### SPEAKER ABSTRACT

## Reconstruction of Ancient Genealogies in Egyptian Mummies

Helpful in the reconstruction of ancient lives is the ability to ascertain the genetic makeup of an individual or the population of which they were a member. Over the last decade it has been possible in limited cases to recover ancient DNA from individual representatives of ancient populations. We have excavated over 500 individuals from the Seila area of the Fayum in Egypt. Many of these bodies have yielded DNA of sufficient quality that genetic determinations can be made. This has primarily been mtDNA. Relationships between individuals in the ancient cemetery have been verified. In addition, DNA from 11 "Royal" mummies from the 18th and 19th dynasties has been recovered and sequenced. From these data, inferences concerning relationships have been tested. This lecture will examine the techniques that have been used for DNA analysis of ancient individuals and the implications of the findings for understanding ancient lives.

#### ACS SPEAKER SERVICE PRESENTS

For All Chemistry Teachers

Mickey Sarquis and Lynn Hogue Miami University Middletown (Ohio)

Using Toys Creatively in Chemistry

Mickey Sarquis and Lynn Hogue will show how toys can be used to enhance chemistry lectures, be a fun way to demonstrate chemical principles, and make demonstrations easier.

Wednesday, September 27th, 2006

University of Pennsylvania Carolyn Hoff Lynch Lecture Hall Chemistry Building 34<sup>th</sup> and Spruce Streets, Philadelphia, PA

Call the Section office at (215) 382-1589 or email PhilaACS@aol.com for reservations and more information.

#### **BOOK REVIEW**

Alan Warren

*Multiphase Homogeneous Catalysis, Vols. 1 and 2*, ed. Boy Cornils et al. 7 x 10 inches, 940 pages, case bound, in English, Wiley-VCH Verlag, Darmstadt, Germany 2005, ISBN-13 978-3-527-30721-0. \$385 from J. W. Wiley, 4th Floor, 111 River St., Hoboken, NJ 07030.

For the first time these 7 editors and over 120 individual contributors bring together the state-of-the-art of all homogeneously catalyzed reactions in multiphase operations. Multiphase systems date to the 1980s and this two-volume work summarizes the technology of these systems such as organic/organic, organic/aqueous, other solvent pairs, nonaqueous ionic solvent, supercritical fluids, and systems with soluble polymers, i.e., all the possibilities of homogeneous catalysis on liquid supports.

Volume 1 is largely devoted to aqueous phase catalysis. Contributors describe reactivity in water, organometallic chemistry of water, phosphorus-containing ligands, homogeneous catalysis as a special unit operation, membrane techniques, micellar systems, oxidations, aminations, and various other reactions. Discussions include catalyst separation and extraction, commercial applications, and prospects for the future in this field.

The next sections focus on organic-organic biphasic catalysis and fluorous catalysis, concluding the first volume.

Volume 2 begins with catalysis in nonaqueous ionic liquids and presents state-of-the-art, fundamentals, separation and catalyst recycling, biocatalysis, commercial applications, the BASIL<sup>TM</sup>process (biphasic acid scavenging utilizing ionic liquids) among others topics. This is followed by a section on catalysis using supercritical solvents and then one on soluble polymer-bound catalysis.

Literature references appear at the end of each chapter and a subject index concludes the second volume. This two-volume treatise will serve those in both academia and industry in understanding multiphase catalysis.



Scholastic Achievement Award winners at the April meeting: first row, I to r: Alexander S. Augustine, Joseph R. Del Palazzo, Jr., James H. Nelson, Caleb Young, Philip Shodder, Steven T. Morris; back row, left to right: Sujeet Govindan, Ryan Centafont, Chong H. McLaren, Christina Tan, Hillary Smith, Jaime L. Sworen, Kathleen Monaco, Michael W. Giuliano, Halla Suleiman, Xin Wu, Rachel A. Kohn.

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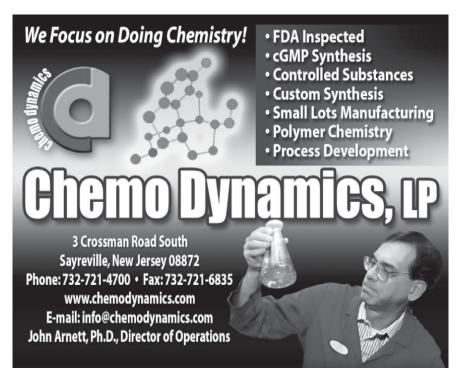
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<sup>\* 2006</sup> is also the 100th Anniversary of the Great San Francisco Earthquake (and resulting fire) of 1906. Many chemical companies donated employee time, materials/supplies or funding for NCW activities in the US and Puerto Rico.



May Teaching Awards: Scott Zgraggen of Springfield High School, Montgomery County, 2006 Philadelphia Section Award for Outstanding High School Chemistry Teaching (left) and John Tierney of Penn State, Delaware County, Philadelphia Section Award for Outstanding Undergraduate Teaching sponsored by Merck & Co., Inc. (right) with David Cichowicz, Chair, Awards Committee.

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#### PHILADELPHIA SECTION, ACS 2006 CALENDAR OF EVENTS

Sept. 10-14	ACS Fall National Meeting	San Francisco, CA
Sept. 11	Mass Spectrometry Discussion Group Hilkka Kenttämaa, Purdue University: Laser-induced Acoustic De sorption/ Chemical Ionization Mass Spectrometr	PETUCCC@Wyeth.com
Sept. 13	Chemical Consultants Network W. Golton: Success Factors for a Consulting Practice in Chemistry	The Cynwyd Club Bala Cynwyd, PA www.chemconsultants.org
Sept. 21	Dr. Scott Woodward Sorenson Molecular Genetics Foundation DNA of Royal Egyptian Mummies	Museum of Archaeology and Anthropology University of Pennsylvania Philadelphia, PA
Sept. 27	M. Sarquis and L. Hogue: Using Toys Creatively in Chemistry	University of Pennsylvania Philadelphia, PA
Oct. 19	Philadelphia Section Award Dr. Patrick J. Walsh	University of Pennsylvania Philadelphia, PA
Oct. 21	Expand Your Horizons Mini- conference for Sixth Grade Girls	Chestnut Hill College Philadelphia, PA
Oct. 22-28	National Chemistry Week	All over the Delaware Valley
Nov. 16	Ullyot Public Affairs Lecture Dr. Ralph Cicerone, President, National Academy of Sciences	Chemical Heritage Foundation Philadelphia, PA
Dec. 9	Herb Bassow Memorial Demos for All Ages	TBA
Dec. 14	<b>Board of Directors Meeting</b>	McCall Conference Ctr.