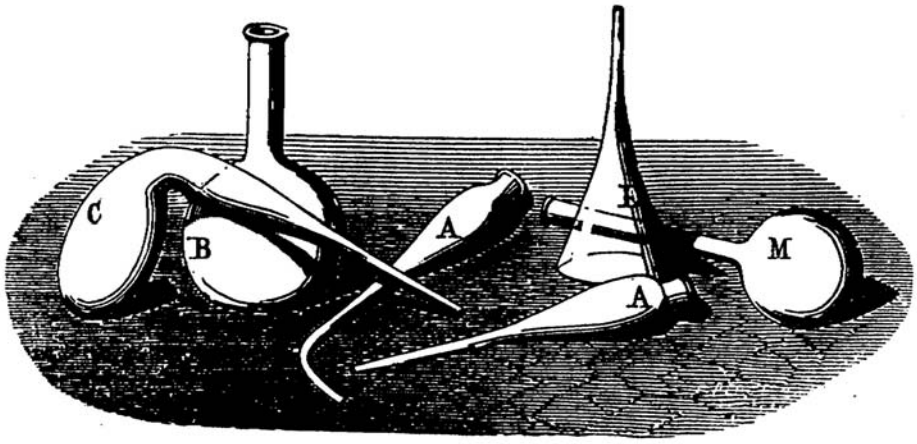
American Chemical Society

DIVISION OF THE HISTORY OF CHEMISTRY



NEWSLETTER AND ABSTRACTS

242nd ACS National Meeting
Denver, CO
August 28 - September 1, 2011

S. C. Rasmussen, Program Chair

DIVISION OF THE HISTORY OF CHEMISTRY

Chair: E. Thomas Strom
Department of Chemistry and Biochemistry
University of Texas at Arlington
P. O. Box 19065
Arlington, TX 76019-0065
Phone: (817) 272-5441
Fax: (817) 272-3808
Email: tomstrom@juno.com

Chair-Elect: Ned D. Heindel
Lehigh University
Department of Chemistry
Seeley G. Mudd Lab
Bethlehem, PA. 18015
Phone: (610) 758-3464
Fax: (610) 758-3461
Email: ndh0@lehigh.edu

Past Chair: Janan M. Hayes
Merced College (retired)
6829 Barbara Lee Circle
Sacramento, CA 95842
Phone: (916) 331-6886
Email: jmhayes@earthlink.net

Secretary-Treasurer: Vera V. Mainz
2709 Holcomb Drive
Urbana, IL 61802
Phone: (217) 328-6158
Email: mainz@illinois.edu

Program Chair: Seth C. Rasmussen
Department of Chemistry and Biochemistry
North Dakota State University
NDSU Dept. 2735, P.O Box 6050
Fargo, ND 58108-6050
Phone: (701) 231-8747
Fax: (701) 231-8831
Email: seth.rasmussen@ndsu.edu

***Bulletin* Editor**: Carmen J. Giunta
Le Moyne College
1419 Salt Springs Rd.
Syracuse, NY 13214-1399
Phone: (315) 445-4128
Fax: (315) 445-4540
Email: giunta@lemoyne.edu

Councilor: Mary Virginia Orna
Department of Chemistry
College of New Rochelle
New Rochelle, NY 10805
Phone: (914) 654-5302
Fax: (914) 654-5387
Email: mvorna@cnr.edu

Councilor: Roger A. Egolf
Pennsylvania State University -
Lehigh Valley Campus, 8380 Mohr Lane
Fogelsville, PA 18051-9999
Phone: (610) 285-5110
Fax: (610) 285-5220
Email: rae4@psu.edu

Alternate Councilor: Joe Jeffers
Ouachita Baptist University
410 Ouachita Street, Box 3786
Arkadelphia, AR 71998-0001
Phone: (870) 245-5216
Fax: (870) 245-5241
Email: jeffers@obu.edu

Alternate Councilor: Arthur Greenberg
Department of Chemistry
University of New Hampshire
Parsons Hall
Durham, New Hampshire 03824
Phone: 603 862-1180
Fax: 603 862-4278
Email: art.greenberg@unh.edu

Historian: James J. Bohning
Department of Chemistry, Lehigh University
6 E. Packer Ave., Bethlehem, PA 18015
Phone: (610) 758-3582
Fax: (610) 758-6536
Email: jjba@lehigh.edu

Archivist: John Sharkey
Pace University
Department of Chemistry & Physical Sciences
One Pace Plaza
New York, NY 10038-1502
Phone: (610) 758-3582
Email: jsharkey@pace.edu

Mission Statement

The Division of the History of Chemistry (HIST - http://www.scs.uiuc.edu/~mainzv/HIST/index.php) of the American Chemical Society (ACS) seeks to advance knowledge and appreciation of the history of the chemical sciences among chemists, students, historians of science, and the broader public by

- Encouraging research and scholarship in history of the chemical sciences;
- Providing a welcoming environment for the discussion of history of chemistry in a variety of venues, particularly in symposia at national ACS meetings;
- Serving as a resource for chemical scientists in general, and members of the ACS in particular, who seek to understand the roots of their discipline, sub-discipline, or interdisciplinary subject;
- Recognizing major achievements from the past in the chemical sciences and the individuals who made those achievements;
- Publishing a scholarly journal in history of chemistry;
- Interacting with other organizations interested in the history of science; and
- Adding value to the ACS by helping it achieve its vision and missions.

Message from Tom Strom, HIST Division Chair

This summer has been plagued with extremely hot temperatures. Surely Denver, CO, the mile-high city, will be a cool venue in which to experience the fall ACS national meeting during the last week of August. HIST is the primary organizer of three co-sponsored symposia: "Gibbs Medal Centennial"; "IYC 2011: A Philatelic Celebration"; and "Profiles of Past ACS Presidents." Furthermore, HIST is co-sponsoring the Presidential Events on "Empowering Tomorrow's Science Super Heroes" and "Science on the Hollywood Screen." For reasons unclear to me, HIST is not a co-sponsor of the symposium "Celebration of the 100th Anniversary of Marie Curie's Nobel Prize in Chemistry," but certainly such an event will be a big draw for students of chemical history. Regrettably, the number of HIST general papers is a little less than for last spring's meeting in Anaheim. I hope that many of you will submit papers for next spring's meeting in San Diego. The due date for abstracts for that meeting is October 28, 2011.

I am delighted to find that seven of our HIST members were chosen to be in the 2011 group of ACS Fellows. They were Seth Nathaniel Brown, Burtron H. Davis, Jean D. Delfiner, George B. Kauffman, James L. Marshall, John Sharkey, and Jeffrey Seeman. If I have accidently omitted any names, please let me know. As you are probably aware, nominations for ACS Fellows can be submitted by any individual ACS members (one to a member), by a local ACS section (number equal to the number of councilors) and by a division (number equal to double the number of councilors). If you know of deserving HIST members who should be nominated by our division, please let our chair-elect Ned Heindel know.

HIST members of all people should be sensitive to the need for recording history at the local level. Do our various local ACS sections archive their minutes or newsletters? If not, valuable chemical history for geographical areas of the ACS may well be lost. This struck home to me when I realized that I know of no archives of minutes for my home Dallas-Fort Worth (D-FW) ACS Section. Fortunately we do have an area magazine/newsletter from which some D-FW history can be extracted. Jim and Jenny Marshall are working to digitize this resource so that it can be searched online. I suspect that efforts of this type are needed in many of our ACS local sections. I urge HIST members to take the lead in seeing that this is done.

As I have said in previous messages, please contact me at (tomstrom@juno.com) with your ideas, criticisms, and suggestions. I hope to see many of you in Denver at the HIST sessions.
E. Thomas (Tom) Strom, HIST Chair

Report of Councilors, Division of the History of Chemistry
ACS National Meeting, Anaheim, CA; March 27-31, 2011

Election Results
- The Committee on Nominations and Elections presented to the Council the following nominees for selection as candidates for President-Elect, 2012: Judith L. Benham, Dennis Chamot, Diane Grob Schmidt, and Marinda Li Wu. By electronic ballot, the Council selected Dennis Chamot and Marinda Li Wu as candidates for 2012 President-Elect. These two candidates, along with any candidates selected via petitions, will stand for election in the Fall National Election.
- The Committee on Nominations and Elections announced the results of the election to select candidates from the list of nominees to represent District III and District VI on the Board of Directors for the term 2012-2014. Nominees for District III included Susan B. Butts, Pat N. Confalone, David J. Lohse, and Judith A. Summers-Gates. Nominees for District VI included G. Bryan Balazs, Bonnie A. Charpentier, Carlos G. Gutierrez, and Victor J. Hruby. By mail ballot, the Councilors from these districts selected Pat N. Confalone and David J. Lohse as District III candidates; and Bonnie A. Charpentier and Carlos G. Gutierrez as District VI candidates. Ballots will be mailed on or before October 10 to all members in District III and District VI for election of a Director from each District.

Candidates for Directors-at-Large
- The Committee on Nominations and Elections announced the selection of the following candidates for Directors-at-Large for a 2012-2014 term: Ken B. Anderson, William F. Carroll, Jr., Charles E. Kolb, and Barbara A. Sawrey. The election of two Directors-at-Large will be conducted in the fall. Ballots will be mailed to the Council on or before October 10.

Reports of the Presidential Succession
- The President, Nancy B. Jackson, reported on her activities which seemed to consist almost entirely of interfacing the ACS with the International Year of Chemistry 2011. Among the many international issues that she, and ACS, are dealing with are the global challenges of population growth, availability of food and water, and climate change. One of the IYC events took place at the Chemical Heritage Foundation featuring the CEOs of Dow and DuPont and the former Director of the NSF. A webcast of the event can be viewed at http://www.chemheritage.org/visit/events/international-year-of-chemistry-2011.aspx.
- The Immediate Past-President, Joseph S. Francisco, reported on a task force that he created that was charged with ensuring that the U.S. remains the most innovative and entrepreneurial country in the world.
- The President-Elect, Bassam Z. Shakhashiri, reiterated his focus on an agenda dealing with policy and programmatic matters related to education at all levels. He also encouraged ACS members who no longer have to pay dues because of length of service in ACS to consider contributing what they would have paid in dues to Project SEED – and he followed up his exhortation by example: he delivered such a check to Madeleine Jacobs on the spot.

Meeting Registration Report

- As of March 30, 2011, the ACS spring national meeting had attracted 14,047 registrants as follows: Regular attendees, 7,336; Students, 4,682; Exhibitors, 1,097; Exposition only, 599; and Guests, 333.

Membership Activity

- Membership recruitment efforts were exceptionally successful in 2010. It is particularly impressive that due to efficiencies in recruiting efforts, the net cost to recruit the more than 25,000 new members decreased from $122 per member in 2008 to $67 in 2010 despite increases in costs for postage and printing. The official membership number for 2011 stands at 163,111. [Note: Not in the report was the fact that the number of members who withdrew from ACS was almost equal to the number of new members recruited, a statistic that draws our attention not so much to recruitment but to retention of members.]

The Executive Director/CEO Report

- The Executive Director/CEO, Madeleine Jacobs, reported among other things that for the seventh consecutive year in a row, the ACS ended the year financially sound and with improved reserves due to vigilant expense management.

Activities of HIST Councilors

Roger Egolf – continued as a member of the Divisional Activities Committee (DAC), on which he was previously serving in his former capacity as a local section councilor for the Lehigh Valley Section. He also serves on the Annual Reports subcommittee of DAC.

Mary Virginia Orna – began her second three-year term on the Council Policy Committee (CPC) (2011-2013). She continues to serve on the Long-Range Planning and the Constitution and Bylaws Subcommittees of CPC and will work on developing a policy on alternative methods of taking recorded votes in Council, and also on overall national meeting planning and efficiency. She has also been a member on the Subcommittee that sets the Divisor every four years in order to maintain the balance of Council numbers for both Local Sections and Divisions.

Roger A. Egolf, Mary Virginia Orna, Councilors

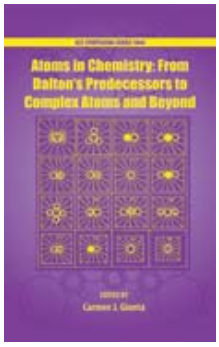
HIST now on Facebook

The ACS Division of the History of Chemistry (HIST) recently added a Facebook page to promote upcoming Division activities and to establish connections with those interested in the history of chemistry that are either not members of the ACS or not familiar with the Division. The Facebook page will not replace HIST's official website (http://www.scs.illinois.edu/~mainzv/HIST/index.php, maintained by Secretary-Treasurer Vera Mainz), but will highlight Division activities with links back to the main website. In addition, this page will allow a venue for members to share their views and discuss topics in the history of chemistry, without being limited by the timing and locations of national and local ACS conferences. The Facebook page can be found at http://www.facebook.com/#!/pages/ACS-Division-of-the-History-of-Chemistry-HIST/152326921497559 or by searching 'HIST' in the Facebook search bar. Check it out, 'Like' the page, and post your thoughts on the Division or any other aspect of the history of chemistry!

Seth C. Rasmussen

HIST listed in Top 10 Most Read ACS Symposium Series Chapters

"Four Centuries of Atomic Theory," by William B. Jensen (University of Cincinnati) has been listed by as one of the Top 10 Most Read Chapters of the ACS Symposium Series for the first quarter of 2011. The chapter is included in the recently published book, *Atoms in Chemistry: From Dalton's Predecessors to Complex Atoms and Beyond*, edited by Carmen J. Giunta (Le Moyne College). HIST is the sponsoring division of the volume, which is based on a HIST symposium from the 236th National Meeting in Philadelphia.

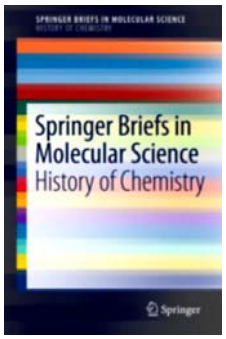


The ACS Symposium Series contains high-quality, peer-reviewed books developed from the ACS technical divisions' symposia. Each chapter is carefully authored by an expert in the field, and the collection of chapters edited by an internationally recognized leader in the field. The series covers a broad range of topics including agricultural and food chemistry, cellulose and renewable materials, chemical education, organic chemistry, polymer chemistry, materials, and many others.

The volume is available in print through Oxford University Press or online at http://pubs.acs.org/isbn/9780841225572.

Seth C. Rasmussen

Update on *Springer Briefs in Molecular Science: History of Chemistry*



In the last newsletter it was announced that a new book series was to be published by Springer, *Springer Briefs in Molecular Science: History of Chemistry*, with the first volumes available the beginning of 2012. The official website of the series is now live at http://www.springer.com/series/10127, where those interested can find more detailed information. The new site also provides a downloadable proposal form for those authors interested in contributing future volumes. Details of some of the initial volumes should be added shortly.

To celebrate the launch of the book series, HIST will be hosting a symposium at the 2012 ACS National Meeting in San Diego, in which initial authors will give talks highlighting their volumes in the series. Initial volumes will include contributions by Gary Patterson (Carnegie Mellon University), Mary Virginia Orna (College of New Rochelle), David E. Lewis (University of Wisconsin - Eau Claire), and Seth C. Rasmussen (North Dakota State University).

Proposals for future volumes are currently being sought and authors interested in discussing potential topics should feel free to contact Series Editor, Seth Rasmussen (seth.rasmussen@ndsu.edu).

Seth C. Rasmussen, Series Editor

German Historical Institute seeks Scholars for Biographical Projects

The German Historical Institute (GHI), located in Washington, DC, is currently working on a new project called “Immigrant Entrepreneurship: German-American Business Biographies, 1720 to the Present.” The project seeks to explore the contributions that first- and second-generation German immigrants have made to business and entrepreneurship in America. The project will feature 250 biographies of prominent entrepreneurs of German descent, for which GHI is currently seeking scholars interested in contributing to the collection. For a brief overview, please see http://www.ghi-dc.org/index.php?option=com_content&view=article&id=964&Itemid=856.

Current biographies being sought that relate to the history of chemistry include Fredrick Heller, founder of Heller & Merz, a colorant factory in Newark, New Jersey, and Jacob Schoellkopf, longtime

resident of Buffalo, NY and founder of Schoellkopf Chemical and Dye Company and Niagara Falls Hydraulic Power. Biographies are requested to be articles of no more than 20 pages, for which GHI can offer a stipend of $400. Additionally, it is hoped to have opportunities for some of the authors to present their research at project-related events. For more information, please contact Claudia Winkler (202-522-8953 or winkler@ghi-dc.org).
Seth C. Rasmussen

Message from the HIST Program Chair

It is hard to believe that this upcoming meeting marks the end of my third year as Program Chair. However, before anyone panics, this is not the end of my term and I will continue as Program Chair for the foreseeable future (or potentially eternity if it was up to my fellow HIST officers!). As I mentioned in the last newsletter, I am also serving on the *ACS PACS Advisory Board* as we continue to try to resolve various issues with the (relatively) new PACS system for the submission of abstracts. One problem in particular that has affected HIST is that small oversights when submitting your abstract can cause it to be considered incomplete. As a consequence, it is in the system, but is stuck in limbo and is not sent to me for acceptance. I plan to write a step-by-step guide for HIST members submitting abstracts as one solution to this (for the HIST website), but hopefully as the advisory board we can develop a more elegant and complete solution to the problem. One of the benefits of being a small division is that HIST is a fairly close-knit community. Thus, until we have a more permanent solution, please send me an email (seth.rasmussen@ndsu.edu) after submitting HIST abstracts to PACS, letting me know that you have done so. That way I can ensure that it is fully in the system as a complete submission. As always, please feel free to pass along any other issues or suggestions that I can then bring up for discussion during the next advisory board meeting (Thanks to those that have already done so).

In Anaheim, we kicked off our new addition to the HIST programming, the *HIST Tutorial Series*. The presentations in this ongoing series are slightly longer talks acting as a review tutorial on a historical subject to bring HIST members and the general ACS community up to speed on a topic of general interest. The tutorials will start the General Papers sessions and whenever possible, will also tie into the ACS thematic programming. The first talk in the series was my contribution, *HIST Tutorial: Early history of metallurgy*, which fit with the Anaheim theme of *Chemistry of Natural Resources*. The upcoming Denver presentation will be *HIST tutorial: Gases of the atmosphere, by* Carmen Giunta (meeting theme is *Chemistry of Air, Space, and Water*) and the San Diego presentation will be by Joe Jeffers focusing on the work leading to the determination of the structure of DNA (meeting theme is *Chemistry of Life*). If there is a topic you would like to see added to the series, or better yet, if there is a topic you would like to talk about, please let me know (Really! I would love to hear from you!).

The programming for Denver is very strong, with sessions running Sunday afternoon through Tues afternoon. Next spring's meeting in San Diego, however, is currently pretty light, so if you have any ideas for upcoming symposia, please let me know. Even if you are not able to organize the symposia in mind, the Executive Committee and I may be able to find the appropriate person to do so. Of course, the submission of talks for our General Papers is always highly encouraged as well. If you have ideas for a talk and need some help or encouragement, don't hesitate to drop me an email.

As always, please feel free to share your thoughts and suggestions with me concerning any aspect of HIST and its programming (seth.rasmussen@ndsu.edu).
Seth C. Rasmussen, HIST Program Chair

HIST SYMPOSIA, 242nd ACS Meeting in Denver, CO
August 28 - September 1, 2011

Schedules and abstracts are listed at the end of this Newsletter.

Gibbs Medal Centennial
Cosponsored by COLL, COMSCI, I&EC, INOR, ORGN, PETR, and PHYS
Financially supported by Chicago Local ACS Section

The Chicago Local Section annually presents the Willard Gibbs Medal to a scientist "who because of eminent work in and original contributions to pure or applied chemistry, is deemed worthy of special recognition by the jury." The list of recipients is a who's who of chemistry. Each recipient is selected by the Jury of the Willard Gibbs Medal, which consists of twelve members elected from the ACS. The 100th Willard Gibbs Medal will be presented in May 2011. Eleven Gibbs Medalists (40% of the living recipients) will present papers on a wide range of topics during this symposium. The symposium will **Sunday afternoon**, August 28, and **Monday afternoon**, August 29, at Sheraton Denver – Terrace.
K. Fivizzani, Organizer

IYC '11: A Philatelic Celebration
Cosponsored by CHED
This symposium, co-sponsored by CHED and HIST, will feature stamps and other philatelic materials related to chemistry and related fields. Oral presentations will include a philatelic tribute to Joseph Priestley's house, a report on Gibbs, thermodynamics and modern visualization techniques, an overview of the history and uses of aluminum, and the history of quantum chemistry on stamps. The symposium will be **Tuesday morning**, August 30, at Sheraton Denver – Terrace.
Dan Rabinovich and Ron Hill, Organizers

Profiles of Past ACS Presidents
Cosponsored by PRES
This symposium will celebrate the opening of a new website on acs.org being developed as a project of Immediate Past President Joe Francisco and the Division of History of Chemistry. The Profiles of Past ACS Presidents will contain a page for each of the presidents with his/her picture, brief biographical summary, chemical interests and presidential activities. The website pages will continue to grow as stories, publications and other details of their scientific experiences and legacies are added. Speakers will share a sampling of these Past Presidents' stories. One part of the project to be presented at the symposium is a statistical analysis of trends on the training and careers of the presidents. The symposium will be **Tuesday afternoon**, August 30, at Sheraton Denver – Terrace.
Joe Francisco, Jan Hayes and Pat Perez, Organizers

UPCOMING NATIONAL MEETINGS AND HIST DEADLINES

Offerings are subject to change.
Check the HIST website - http://www.scs.uiuc.edu/~mainzv/HIST/index.php) for updates.

SAN DIEGO, March 25 - 29, 2012

Submit your abstract via the online ACS Program and Abstract Creation System (PACS) by **October 28, 2011**. If you do not have access to a computer for use in the submission or are having difficulties

in submitting your abstract, contact Seth Rasmussen (seth.rasmussen@ndsu.edu). Check the call for papers in ***Chemical and Engineering News*** or ***www.acs.org*** for changes in the abstract deadlines.

HIST Tutorial and General Papers. (Seeking contributors) Seth C. Rasmussen, Department of Chemistry and Biochemistry, North Dakota State University, NDSU Dept. 2735, P.O. Box 6050, Fargo, ND 58108-6050, Phone: (701) 231-8747, Email: seth.rasmussen@ndsu.edu

Springer Briefs History of Chemistry Book Series. (Invited) Seth C. Rasmussen, Department of Chemistry and Molecular Biology, North Dakota State University, NDSU Dept. 2735, P.O. Box 6050, Fargo, ND 58108-6050, Phone: (701) 231-8747, Email: seth.rasmussen@ndsu.edu

The Double Bind - Minority Women in Science and Update Thirty Seven Years Later. (Invited and seeking contributors) Jeannette Brown, 122 Brookside Lane Hillsborough, NJ 08844-4816, Phone: 908-239-1515, Email: Jebrown@infionline.net

Philadelphia, August 19 - 23, 2012

HIST Tutorial and General Papers. (Seeking contributors) Seth C. Rasmussen, Department of Chemistry and Biochemistry, North Dakota State University, NDSU Dept. 2735, P.O. Box 6050, Fargo, ND 58108-6050, Phone: (701) 231-8747, Email: seth.rasmussen@ndsu.edu

Characters in Chemistry. (Invited and seeking contributors) Gary D. Patterson, Department of Chemistry, Carnegie Mellon University, 4400 Fifth Avenue, Pittsburgh, PA 15213, Phone: 412-268-3324, Email: gp9a@andrew.cmu.edu

Chemistry Books Edited by E. F. Smith. (Invited) Ned D. Heindel, , Department of Chemistry, Lehigh University, Seeley G. Mudd Lab, Bethlehem, PA 18015, Phone: (610) 758-3464, Fax: (610) 758-3461), Email: ndh0@lehigh.edu; James J. Bohning, Department of Chemistry, Lehigh University, 6 E. Packer Ave, Bethlehem, PA 18015, Phone: (610) 758-3582, Fax: (610) 758-6536, Email: jjba@lehigh.edu

Celebrating the Sesquicentennial of the Land Grant College Act. (Invited) Roger A. Egolf, Pennsylvania State University -Lehigh Valley Campus, 8380 Mohr Lane, Fogelsville, PA 18051-9999, Phone: (610) 285-5110, Email: rae4@psu.edu

Dr. Marie Maynard Daly, Her Life and Legacy. (Invited and seeking contributors) [co-sponsors: CMA, WCC, and Chemcial Heritage Foundation] Jeannette Brown, 122 Brookside Lane Hillsborough, NJ 08844-4816, Phone: 908-239-1515, Email: Jebrown@infionline.net; Filomena Califano, Department of Chemistry & Physics, St. Francis College, Brooklyn Heights, New York, 11201, Email: fcalifano@stfranciscollege.edu; Janet Bryant, Pacific Northwest National Laboratory, P.O. Box 999, Richland, WA 99352, Phone: (509) 375-3765, Email: janetlbryant@pnl.gov.

News from the Chemical Heritage Foundation

The Chemical Heritage Foundation - http://www.chemheritage.org/ (CHF) fosters an understanding of chemistry's impact on society. An independent nonprofit organization, we strive to inspire a passion for chemistry, highlight chemistry's role in meeting current social challenges, and preserve the story of chemistry across centuries. CHF maintains major collections of instruments, fine art, photographs, papers, and books. We host conferences and lectures, support research, offer fellowships, and produce

educational materials. Our museum and public programs explore subjects ranging from alchemy to nanotechnology.

CHF Mourns John C. Haas

All who are involved with the Chemical Heritage Foundation (CHF) were saddened to learn of the passing of John C. Haas, former chairman of global chemical company Rohm and Haas on Saturday, April 2, at his family home in Villanova, Pennsylvania. Haas played a crucial role in the establishment of CHF's predecessor organization, the Center for the History of Chemistry, in 1982. From that point forward he tirelessly served CHF as a member of advisory boards and development committees and through a six-year term on CHF's board of directors. He created three Haas Fellowships for visiting scholars at CHF: one in the history of chemical industries and two in public understanding.

"John was a constant and creative supporter of CHF for three decades," said Thomas R. Tritton, CHF's president and CEO. "We will miss him greatly, as will so many others in the Philadelphia area who received his support, wise counsel, and encouragement."

FMC Corporation and CHF Form Partnership to Promote Chemistry and the Arts

FMC Corporation (NYSE: FMC) and the Chemical Heritage Foundation (CHF) have formed a partnership to promote chemistry and the arts during the International Year of Chemistry 2011. FMC will provide support for CHF's exhibit Elemental Matters: Artists Imagine Chemistry. FMC will also encourage its Philadelphia and Ewing, N.J., employees to participate in CHF events and to volunteer their assistance with CHF programs.

"The world center of the history of chemistry is right here in Philadelphia," said Michael Sestrick, global director of Technology, FMC BioPolymer. "We want to be part of preserving and promoting the history of the central science and celebrating all that good chemistry brings to our lives." Sestrick will serve as the company's liaison to CHF.

On display at CHF through December, Elemental Matters includes The Periodic Table Printmaking Project, curated by Jennifer Schmitt, with 118 prints by 97 artists from 29 states and 7 countries laid out in the familiar periodic grid. The prints in this project celebrate the chemical elements as they link to everyday life. Also on display are photos by Dove Bradshaw showing the beauty of the human figure juxtaposed with words listing the elements of the human body, along with several other works by artists from Europe and the United States. Along with FMC Corporation, the exhibit is supported by Kathryn Hach-Darrow.

"We welcome support from FMC for Elemental Matters and our ongoing work of preserving the history of chemistry," said Thomas R. Tritton, president and CEO of CHF. "More importantly, we are delighted to welcome FMC employees and their families to our events and programs as participants and volunteers."

News from the Society for the History of Alchemy and Chemistry

Founded in 1935, the Society for the History of Alchemy and Chemistry (SHAC) has consistently maintained the highest standards of scholarship in all aspects of the history of alchemy and chemistry from early times to the present. The Society has a wide international membership of over 200 with members from 28 countries.

The Partington Prize 2011

The Society for the History of Alchemy and Chemistry is pleased to announce the winners of the 2011 Partington Prize. The Prize has been awarded jointly to: Dr Marcos Martinón-Torres (Institute of

Archaeology, University College London) for his essay ‘Inside Solomon’s House: an archaeological study of the Old Ashmolean chymical laboratory in Oxford’, and Mr Evan Ragland (Chemical Heritage Foundation, Philadelphia, and Department of History and Philosophy Science, Indiana University) for his essay ‘Chymistry and taste in the seventeenth century: Franciscus dele Boe Sylvius as a chymical physician between Galenism and Cartesianism’.Details of the presentation of the Prize will be available shortly. We congratulate both winners.

SHAC 75th Anniversary Meeting: ‘The History of the History of Chemistry’

A meeting to celebrate the 75th Anniversary of the Society for the History of Alchemy and Chemistry was held in London at the Royal Institution on 19 November 2010. The day began with a tour, led by Professor Frank James, of the Science in the Making Exhibition of the recently refurbished Museum of the Royal Institution. Dr Robert Anderson, the Society’s Chairman, opened the meeting by welcoming the 70 members and other historians of chemistry from Europe, Canada and the USA. He noted that 2010 was not only the 75th anniversary of SHAC, but also the 180th anniversary of the publication in 1830 in London of Thomas Thomson’s famous History of Chemistry, probably the first book of its kind devoted to our subject. Dr Anderson reported that, in addition to holding this meeting, the Society was also marking its anniversary with the compilation of a catalogue (prepared by Tony Simcock) of the SHAC archives, which are deposited at the Museum of the History of Science at Oxford. This compilation revealed a lack of photographs of the Society’s activities that it was planned to remedy at this meeting. Dr Anderson thanked the Managers of the Royal Institution and also Professor Frank James for making it possible to hold this meeting in the singularly appropriate setting of the RI.

HIST

DIVISION OF THE HISTORY OF CHEMISTRY

Final Program, 242nd ACS National Meeting, Denver, CO, August 28 - Sept 1, 2011

S. C. Rasmussen, *Program Chair*

BUSINESS MEETING:
HIST Executive Committee Meeting, 5:00 pm: Sun

SUNDAY MORNING

Colorado Convention Center – Four Seasons BR 4

Empowering Tomorrow's Science Super Heroes (PRES)

Cosponsored by ANYL, BMGT, CHED, CINF, COMSCI, FUEL, GEOC, HIST, I&EC, INOR, MEDI, PHYS, PROF, and YCC

SUNDAY AFTERNOON

Sheraton Denver – Terrace

Gibbs Medal Centennial

K. Fivizzani, *Organizer, Presiding*

Cosponsored by COLL, COMSCI, I&EC, INOR, ORGN, PETR, and PHYS
Financially supported by Chicago Local ACS Section

1:00 — Introductory Remarks.
1:05 — 1. History of the Gibbs Medal and selection process. **K. P. Fivizzani**
1:30 — 2. Josiah Willard Gibbs – Genius of science and mathematics. **K. S. Kostecka**
1:55 — 3. Fuel from sunlight and water. **H. Gray**
2:25 — Intermission.
2:40 — 4. DNA-mediated signaling. **J. K. Barton**
3:10 — 5. Irreproducibility in the scientific literature: How often do scientists tell the whole truth and nothing but the truth? **R. G. Bergman**
3:40 — 6. Three-cornered hat. **J. M. Thomas**
4:10 — 7. My life with LIF. **R. N. Zare**

Colorado Convention Center – Four Seasons BR 4

Science on the Hollywood Screen (PRES)

Cosponsored by ANYL, BMGT, CHED, CINF, COMSCI, FUEL, GEOC, HIST, I&EC, INOR, MEDI, PHYS, PROF, and YCC

MONDAY MORNING

Sheraton Denver – Terrace

General Papers

S. C. Rasmussen, *Organizer, Presiding*

7:45 — 8. HIST tutorial: Gases of the atmosphere. **C. J. Giunta**
8:25 — 9. Fifty years of Vaska's compound. **R. U. Kirss**
8:55 — 10. 80 Years of terpyridine chemistry. **A. Winter**, G. R. Newkome, U. S. Schubert
9:25 — 11. Extroverted confusion – Linus Pauling, Melvin Calvin and porphyrin isomers. **M. O. Senge**
9:55 — Intermission.
10:10 — 12. John William Baker and the development of the Baker-Nathan effect. **M. D. Saltzman**
10:40 — 13. Arnaldo Piutti and the discovery of enantioselectivity in receptor-mediated biological activity. **J. Gal**
11:10 — 14. Early 20th century opinion on engineering training for chemistry undergraduates. **R. A. Egolf**, P. A. Khoury
11:40 — 15. Inner meanings of physical chemistry: Understanding the atom and nuclear reactions. **A. Galadari**

MONDAY AFTERNOON

Sheraton Denver – Terrace

Gibbs Medal Centennial

K. Fivizzani, *Organizer, Presiding*

Cosponsored by COLL, COMSCI, I&EC, INOR, ORGN, PETR, and PHYS
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1:30 — 16. Developments in field of electron and related transfers - now and then. **R. A. Marcus**
2:00 — 17. Reactions at surfaces: Delving below and beyond. **S. T. Ceyer**
2:30 — 18. Gibbs Medal Award. Galloping cyclohexane conformations. **J. D. Roberts**
3:00 — Intermission.
3:15 — 19. Molecular recognition of DNA by small molecules, a historical perspective. **P. B. Dervan**
3:45 — 20. Ionic reactions and solvation. **J. I. Brauman**
4:15 — 21. Structure property relationships in molecular wires. **R. Breslow**

Sheraton Denver – Beverly

Gibbs Medal Centennial Reception

4:45 - 6:30

MONDAY EVENING

Colorado Convention Center – Hall D

Sci-Mix

S. C. Rasmussen, *Organizer*

8:00 - 10:00
8, 9, 14. See previous listings.
33. See subsequent listings.

TUESDAY MORNING

Sheraton Denver – Terrace

IYC'11: A Philatelic Celebration

R. Hill, *Organizer*
D. Rabinovich, *Organizer, Presiding*

Cosponsored by CHED

8:30 — Introductory Remarks.
8:35 — 22. Chemical philately: Classroom applications. **M. A. Morgan**
9:05 — 23. The Joseph Priestley House; A philatelic remembrance. **J. B. Sharkey**
9:35 — 24. Gibbs, thermodynamics, visualization - all for just 37 cents! **K. R. Jolls**
10:05 — Intermission.
10:20 — 25. Chemical philately and the story of the quantum. **C. Lang**
10:50 — 26. Curie semipostal stamps of 1938. **R. Hill**, D. Rabinovich
11:20 — 27. Aluminum on stamps: A tribute on the 125th anniversary of the Hall-Héroult process. **D. Rabinovich**

TUESDAY AFTERNOON

Sheraton Denver – Terrace

Profiles of Past ACS Presidents

J. Francisco, *Organizer*
J. Hayes, *Organizer, Presiding*

Cosponsored by PRES

2:00 — Introductory Remarks.
2:05 — 28. Why does ACS need an accessible history of its presidents? **J. S. Francisco**
2:30 — 29. What does an ACS president do besides pontificate? **W. F. Carroll**
2:55 — 30. Who were the first ACS Presidents? **P. L. Perez**
3:15 — Intermission.
3:30 — 31. Anna J. Harrison: After 102 years, the first ACS woman president. **L. P. Eubanks**
3:55 — 32. Reflections on the ACS presidents at the end of the 20th century. **B. E. Bursten**
4:20 — 33. Do you want to know more about the ACS presidents? Select acs.org instead of Wikipedia? **J. M. Hayes**
4:45 — Reception.

HIST 1: History of the Gibbs Medal and selection process

Kenneth P Fivizzani[(1)]*, kfivizzani@wowway.com, 4251 Colton Circle, Naperville IL 60564, United States. (1) ACS Chicago Local Section, United States*

In May 2011, the 100th Willard Gibbs Medal was presented to a scientist "who because of eminent work in and original contributions to pure or applied chemistry, is deemed worthy of special recognition by the jury." The list of recipients is a who's who of chemistry. Each recipient is selected by the Jury of the Willard Gibbs Medal, which consists of twelve members elected from the ACS. Bylaw XV of the Chicago Section Bylaws contains the rules for the Gibbs Medal selection process and the presentation of the medal. The selection process begins each year on July 1; the Chair-elect of the Chicago Section is the Chair of the Jury through the presentation of the award.

HIST 2: Josiah Willard Gibbs – Genius of science and mathematics

Keith S Kostecka[(1)]*, kkostecka@colum.edu, 600 S. Michigan Avenue, Chicago Illinois 60605, United States. (1) Department of Science and Mathematics, Columbia College - Chicago, Chicago Illinois 60605, United States*

Josiah Willard Gibbs (1839-1903), best known for his work in chemical thermodynamics and physical chemistry, was also well known for his accomplishments in physics and mathematics. These achievements were throughout his life in: his early years; young adulthood and also his senior years. Gibb's formative years were centered on Hopkins Grammar School and Yale University where he graduated from in 1858 with honors in mathematics. His young adult years saw Gibbs complete his Ph.D. in engineering, tutor at Yale and then go to Europe to study chemistry and thermodynamics. From 1873 to 1878 Gibbs, back at Yale as a professor of mathematical physics, published a series of papers where he applied thermodynamics to interpret physicochemical phenomena. Gibb's senior years saw him develop vector analysis and further the development of statistical mechanics. He also won the Copley Medal in 1901; in the years following his death there would be many honors.

HIST 3: Fuel from sunlight and water

Harry Gray[(1)]*, hbgray@caltech.edu, 1200 E Calif Blvd, Pasadena California 91125, United States . (1) Department of Chemistry, California Institute of Technology, Pasadena California 91125, United States*

We are working on rugged light absorbers and catalysts made from Earth abundant materials that have the potential to split water as efficiently as natural photosynthesis. We have recruited hundreds of students to join a Solar Army whose mission is the discovery of brand new metal-oxide catalysts for solar water splitters.

HIST 4: DNA-mediated signaling

Jacqueline K. Barton[(1)]*, jkbarton@caltech.edu, 1200 E. California Blvd., Pasadena CA 91125, United States . (1) Division of Chemistry and Chemical Engineering, California Institute of Technology, Pasadena CA 91125, United States*

DNA charge transport chemistry provides an opportunity to carry out redox chemistry at a distance. Many experiments have now shown that DNA-mediated charge transport can arise over long molecular distances but in a reaction that is exquisitely sensitive to perturbations in the DNA base stack. Studies are described to characterize biological roles for DNA charge transport. This chemistry may be used advantageously within the cell in long range signaling to DNA-bound proteins, both to regulate transcription and to activate DNA repair under conditions of oxidative stress.

HIST 5: Irreproducibility in the scientific literature: How often do scientists tell the whole truth and nothing but the truth?

Robert G Bergman[(1)]*, rbergman@berkeley.edu, Latimer Hall #1460, Berkeley CA 94720-1460, United States . (1) Department of Chemistry and Chemical Sciences Division, University of California, Berkeley and Lawrence Berkeley National Laboratory, Berkeley, Berkeley CA 94720-1460, United States*

This lecture will address reports of scientific misconduct that have appeared in recent years, as well as other issues of scientific ethics, from the point of view of an active worker in synthetic organic and inorganic chemistry. After a discussion of primary scientific fraud, such as plagiarism and data fabrication, the general question of scientific data reproducibility will be considered. The talk will assess the level of reproducibility of most research in the synthetic chemical literature, and then focus on two journals, Organic Synthetic and Inorganic Synthesis, which are among the only organs that provide a source of direct information about irreproducibility. The talk will consider the question of whether trying to insure reproducibility necessarily acts as an effective means of protecting science from fraud, and will close by consideration of other ethical issues: “semi-fraud”, the conscious and unconscious manipulation of data, how experimenters manipulate data (and how it manipulates experimenters), ethical problems in peer review, and ethics in interpersonal scientific behavior.

HIST 6: Three-cornered hat

John Meurig Thomas[(1)]*, jmt2@cam.ac.uk, CB2 3QZ, Cambridge Cambridge, United Kingdom . (1) Department of Materials Science, University of Cambridge, Cambridge CB2 3QZ, United Kingdom*

A whirlwind account is to be given of: the popularization of chemical science, seen vicariously through the eyes of Davy and Faraday; the essence and applicability of single-site heterogeneous catalysts (SSHC); and revolutionary advances in chemical electron microscopy. The thoughts, actions and styles of Humphry Davy and Michael Faraday, two contrasting geniuses, speak to us down through the ages. SSHCs offer a strategy for the design of powerful new catalysts well suited to manufacture commodity-scale and fine chemicals in an environmentally responsible manner. The modern high-resolution electron microscope is arguably one of the single most powerful instruments that the chemist has at his or her disposal.

HIST 7: My life with LIF

Richard N. Zare[(1)]*, zare@stanford.edu, Department of Chemistry, Standford CA 94305-5080, United States . (1) Stanford University, United States*

Laser-induced fluorescence (LIF) offers many advantages. It gives a bright signal against a dark background enabling detection limits to be pushed to that of a single molecule. LIF permits preparation of a well-defined excited states whose properties — radiative and collisional — can be studied in great detail. It allows probing of molecules in extremely hostile environments, such as flames, arcs, and sparks. LIF can also be used in other amazing ways, from sorting cells, one at a time, to sequencing the human genome. I will present a personal account of my own work with LIF, beginning with the birth of the laser.

HIST 8: HIST tutorial: Gases of the atmosphere

Carmen J Giunta[(1)]*, giunta@lemoyne.edu, 1419 Salt Springs Rd., Syracuse NY 13214-1399, United States. (1) Department of Chemistry and Physics, Le Moyne College, Syracuse NY 13214-1399, United States*

Once upon a time, air was considered an element by those astute enough even to realize that it was matter. In the 18th century, it became apparent that air was actually a mixture of distinct "airs" (or gases to use the modern term). This presentation will focus on how the major components of the atmosphere came to be characterized and recognized as separate substances. It will include all of the most abundant components of

dry air and a few trace gases as well. Attention will be focused on, but not limited to, the pneumatic chemists of the 18th century.

HIST 9: Fifty years of Vaska's compound

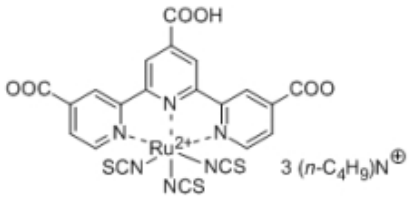
Rein U Kirss[(1)]*, r.kirss@neu.edu, 360 Huntington Avenue, Boston MA 02115, United States. (1) Department of Chemistry and Chemical Biology, Northeastern University, Boston MA 02115, United States*

Textbooks in organometallic chemistry list bis(triphenylphosphine)carbonyl iridium (I) chloride alongside the name “Vaska's compound”. This year (2011) represents fifty years since the synthesis and characterization of $Ir(PPh_3)_2(CO)Cl$ by Prof. Lauri Vaska. Who is Lauri Vaska and what path led him to discover the compound which bears his name? In this paper we will explore the road to $Ir(PPh_3)_2(CO)Cl$, how the complex came to bear Lauri Vaska's name, and the significance of the complex in organometallic chemistry. Lauri Vaska's work on group 8 and 9 transition metal compounds led to the discovery of a number of low valent complexes during the early days of a rapidly emerging field of organometallic chemistry. Vaska reported hydrogenation of olefins in 1965, the same year as Wilkinson reported on $ClRh(PPh_3)_3$. Vaska's compound adds many small molecules and activates aldehydes in an early example of metal catalyzed decarbonylation of aldehydes used in organic synthesis today.

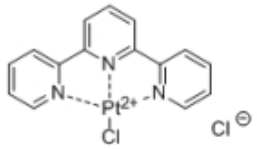
HIST 10: 80 Years of terpyridine chemistry

Andreas Winter[(1)(2)]*, andreas.winter@uni-jena.de, Humboldstr. 10, Jena Thuringia 07743, Germany; George R. Newkome*[(3)]*; Ulrich S. Schubert*[(1)(2)(4)]*. (1) Laboratory of Organic and Macromolecular Chemistry (IOMC), Friedrich-Schiller-University Jena, Jena 07743, Germany (2) Jena Center for Soft Matter (JCSM), Jena 07743, Germany (3) Departments of Polymer Science and the Maurice Morton Institute of Polymer Science, The University of Akron, Akron Ohio 44325-4717, United States (4) Dutch Polymer Institute, Jena 07743, Germany*

In 1931, Morgan and Burstall obtained 2,2':6',2''-terpyridine (tpy), along with other *N*-containing products, from a reaction of pyridine with anhydrous $FeCl_3$ in an autoclave (340 °C, 50 atm, 36 h). The instantaneous coordination of Fe^{II} ions gave rise to the first indication of metal complex formation. Within the last eight decades, tpy and its derivatives evolved from a rather chemical oddity to highly versatile ligands in modern supramolecular chemistry and outstanding applications of terpyridines and their meal complexes have been derived. In this respect, the “black dye” and Pt^{II} complexes as powerful sensitizer in photovoltaics and potent metallo-drug, respectively, have to be named. In this contribution, the historic benchmarks as well as today's applications of terpyridines in the fields of polymer science, nanotechnology, photo-physics, medicine and catalysis will be highlighted.



"black dye":
sensitizer for solar cell applications



PtII complexes
as metallo-drugs

HIST 11: Extroverted confusion – Linus Pauling, Melvin Calvin and porphyrin isomers

Mathias O. Senge[(1)]*, sengem@tcd.ie, SFI Tetrapyrrole Laboratory, Dublin - 2, Ireland. (1) School of Chemistry, Trinity College Dublin, Dublin 2, Ireland*

Isomeric porphyrins such as porphycenes and N-confused porphyrins have become a mainstay of contemporary supramolecular and coordination chemistry. Notably, the N-confused (2-aza-21-carbaporphyrins) were discovered in 1994 by Furuta *et al.* and Latos-Gra*żyńs*ki and coworkers and opened a whole new area of heteroatom substituted tetra- and oligopyrrole research. Historically, Melvin Calvin proposed "carboporphyrins" in 1943 and, unbeknownst to contemporary science, Linus Pauling analyzed

the existence and stability of such fundamental porphyrin isomers in 1944. What he called "isoporphyrins" with "extroverted pyrrole rings" are clearly the isomeric 2-aza-21-carbaporphyrins of today.

HIST 12: John William Baker and the development of the Baker-Nathan effect

Martin D. Saltzman[(1)]*, MSALTZMN@providence.edu, 1 Cunningham Square, Providence RI 02918, United States. (1) Providence College, United States*

In 1935 John William Baker(1898-1967) and Wilfred Samuel Nathan(1911-1961) of Leeds University proposed a novel explanation for anomalous results that they had obtained in their studies of the rates of reaction in certain alkyl-substituted compounds. This involved the assumption that the electrons in a carbon-hydrogen bond adjacent to an unsaturated carbon were able to be delocalized. This explanation was applied to many other situations and soon the Baker-Nathan effect was applied to many other anomalous results by Baker and other investigators. This paper will initially discuss the life and chemical work of John William Baker and in the second part will review the experimental work that led to the development of the Baker-Nathan effect . Finally the reasons why the Baker-Nathan effect as originally proposed is no longer in favor.

HIST 13: Arnaldo Piutti and the discovery of enantioselectivity in receptor-mediated biological activity

Joseph Gal[(1)]*, joe.gal@ucdenver.edu, University of Colorado Hospital, Clinical Laboratory A 022, Aurora Colorado 80045, United States. (1) University of Colorado School of Medicine, United States*

The first example of biological enantioselectivity, a difference in the microbial metabolism of the tartaric acid enantiomers, was discovered by Louis Pasteur in 1857. Nearly 30 years later, in 1886, Arnaldo Piutti (1857-1928), an Italian chemist, discovered the first example of enantioselectivity in what is considered today a receptor-mediated biological activity. Natural (*L*) asparagine had first been isolated in the early 1800s but D-asparagine was unknown. Piutti separated D-asparagine from the L-enantiomer obtained from germinated vetch. From 650 kg of vetch he obtained 20 kg of L-asparagine and 100 g of the pure D enantiomer. The two enantiomers crystallized in enantiomorphous forms and had equal but opposite optical rotations. Most importantly, Piutti found that L-asparagine was without taste but the D-enantiomer was intensely sweet. This was the first reported observation of enantioselectivity in what is now known to be a receptor-mediated biological action, an important and widely occurring phenomenon.

HIST 14: Early 20th century opinion on engineering training for chemistry undergraduates

Roger A. Egolf[(1)]*, rae4@psu.edu, 2809 Saucon Valley Road, Center Valley PA 18034, United States; Peter A. Khoury*[(1)]*. (1) Pennsylvania State University-Lehigh Valley Campus, United States*

This paper will explore the variety of opinions held by early 20th century leaders in academic chemistry and chemical industry on the relative value of engineering education compared to traditional chemical education for students planning careers in chemical manufacturing and research.

HIST 15: Inner meanings of physical chemistry: Understanding the atom and nuclear reactions

Abdulla Galadari[(1)]*, aigaladari@gmail.com, P.O. Box 121051, Dubai Dubai, United Arab Emirates. (1) Department of Civil Engineering, Higher Colleges of Technology, Dubai, United Arab Emirates*

The study looks into deep meanings of the atom and nuclear reactions. The atomic age is relatively modern, but arguably the philosophy of the atom existed through human history. Examples include how kings' palaces resembled the nucleus of the atom, where the eunuchs used to serve the king's household,

while the remainder of society were not allowed to cross through the walls of the palace. The king's household is likened to the protons in the nucleus and the eunuchs are likened with the neutrons inside the nucleus. Parallels are made from historic kings' palaces and the atom and how the interactions in the past resemble interactions within the atom. The paper also delves into the inner meanings of the periodic table of elements and its historic significance, as well as the inner meanings of nuclear reactions. This paper unlocks some spiritual aspects of alchemy that existed in the ancient times.

HIST 16: Developments in field of electron and related transfers - now and then

Rudolph A. Marcus[(1)]*, ram@caltech.edu, 1200 E. California Blvd., M/C 127-72, Pasadena CA 91125, United States. (1) Division of Chemistry and Chemical Engineering, California Institute of Technology, Pasadena CA 91125, United States*

The electron transfer field has developed in numerous directions in the past half century. The subfields range from biological electron transfer (ET) to solar energy conversion, from ET in enzymes to ET in semiconductors, from transfer between molecules or ions in liquids to between liquids and between liquids and electrodes. They include ET's that are photoinduced and those that, instead, are light emitters. Studies now range from ET in ensembles to ET in the complementary field of single molecules. Some of the concepts developed originally for electron transfers, such as the dependence of reaction rate constant on standard free energy of reaction, and the cross-relation, have been extended to atom and group transfers, though with a very different model for the potential energy surface. The usual pair of parabolas for ET was replaced by a more usual description of atom transfers. The model still gave the cross-relation for the rate constants (it works well) but not the inverted effect, a difference understood from the difference in topography of the potential energy curves for the ET and for the atom or group transfer. The developments of very fast ET introduced a new element and focused attention on solvent dynamics and the long neglected Kramers theory. In this lecture we summarize and discuss some of this history and current directions, including those related to solar energy conversion and to intermittent fluorescence of nanoparticles.

HIST 17: Reactions at surfaces: Delving below and beyond

Sylvia T. Ceyer[(1)]*, stceyer@mit.edu, 77 Mass Ave, 6-217, Cambridge MA 02139, United States. (1) Department of Chemistry, Massachusetts Institute of Technology, Cambridge MA 02139, United States*

Catalytic surface reactions depend not only on adsorbed species but also on absorbed species. Specifically, a H atom embedded in Ni bulk emerges onto the surface and in so doing, hydrogenates adsorbed ethylene and acetylene while absorbed H does not. Their distinct reactivities arise from different energetics. These results demonstrate that absorbed H is a reactant with a chemistry of its own. In a second system, Si dangling bonds abstract a F atom from XeF2 forming an adsorbed F and scattered XeF. Some XeF dissociates as a result of exothermicity partitioning to the XeF rovibrational continuum. The F and Xe are shown to arise from gas phase dissociation by demonstrating that angle-resolved velocity distributions of F, Xe, and XeF conserve momentum, energy, and mass. Knowledge and inclusion of abstraction and gas phase dissociation of a surface reaction product are critical to development of accurate models for etching and vapor deposition.

HIST 18: Gibbs Medal Award. Galloping cyclohexane conformations

John D. Roberts[(1)]*, robertsj@caltech.edu, Crellin Laboratory 184-39, Pasadena CA 91125, United States. (1) Division of Chemistry and Chemical Engineering, California Institution of Technology, Pasadena California 91125, United States*

The Willard Gibbs Medal is a very prestigious award for chemistry, with its 100-year life span, not much less than the 110-year life span of the Nobel Prize in Chemistry, indeed it is rather simiiar in scope, only

lacking a $1,000,000 honorarium. It differs from the Nobel tradition in awarding the honor mostly to US researcher, only 6 out of 100 from other countries. Being much older than the average of male American chemists, I was fortunate to be acquainted with 72 of the past awardees and it is a great group. A bit slow in recognizing women, but there were three in the last five years and before, only Marie Curie (1921). The subject of this talk will be the use of NMR to follow conformational and preferences changes in 1,2-trans- and 1,3-cis-cyclohexanedicarboxylic acids.

HIST 19: Molecular recognition of DNA by small molecules, a historical perspective

Peter B. Dervan[(1)]*, dervan@caltech.edu, Mail Code 164-30, Pasadena CA 91125, United States. (1) Division of Chemistry & Chemical Engineering, California Institute of Technology, United States*

Small molecules that bind specific DNA sequences would be useful tools in biology, biotechnology and potentially in human medicine. The field has its origins in the 1950's in natural products isolation and the search for antimicrobial and antitumor agents. I will attempt to trace this historical development from early concepts such as Lerman's “intercalation model” (1961) to the “Py-Im pairing rules” (1998) for minor groove recognition of the DNA double helix.

HIST 20: Ionic reactions and solvation

John I Brauman[(1)]*, brauman@stanford.edu, Department of Chemistry, Stanford University, Stanford CA 94305-5080, United States. (1) Department of Chemistry, Stanford University, Stanford CA 94305-5080, United States*

We usually observe ions in condensed phase, where the energies of solvation are very large. These large solvation effects often overwhelm the intrinsic “chemical” differences that might otherwise determine the chemistry of these ions. By studying the isolated ions in the gas phase we learn something about their intrinsic chemistry as well as the effects of solvation. Thermodynamics (acidity and basicity), kinetics (reaction dynamics) and mechanisms (S_N2, carbonyl addition) are all dramatically affected by solvation. I will discuss some of the experiments and conclusions that can be drawn from these studies.

HIST 21: Structure property relationships in molecular wires

Ronald Breslow[(1)]*, rb33@columbia.edu, 3000 Broadway, New York NY 10024, United States . (1) Department of Chemistry, Columbia University, New York New York 10027, United States*

The electrical conductivities of molecular wires, measured using a gold break junction, have been studied using various contacts. Extremely high conductivities were seen with gold atom contacts that directly incorporate into the gold electrodes. In other studies, conduction through stacked benzenes and through molecules with differing amounts of aromaticity and antiaromaticity are also of theoretical and practical interest.

HIST 22: Chemical philately: Classroom applications

Michael A. Morgan[(1)]*, mmorgan@lausd.net, 1200 North Cornwell Street, Los Angeles CA 90033, United States . (1) Francisco Bravo Medical Magnet High School, United States*

The History of Chemistry, its predecessor Alchemy, and the people involved in it are often portrayed on postage stamps. Stamps showing chemical formulae, structure, and laboratory glassware are especially enjoyable topics for postage stamps. In addition scientific units and constants have been honored on philatelic issues. The metric system and mathematical equations related to chemistry can be found on many issues. Stamps of the world relating to chemistry and its history will be discussed.

HIST 23: The Joseph Priestley House; A philatelic remembrance

John B Sharkey[(1)]*, jsharkey@pace.edu, 1 Pace Plaza, New York New York 10038, United States . (1) Department of Chemistry, Pace University, New York New York 10038, United States*

The temporary closing of the Priestley House in 2010 is a reminder of the fragile nature of many of our historic landmarks. Even though Joseph Priestley lived in Northumberland, PA for only ten years, the Joseph Priestley House remains today a site of major scientific importance. As part of this philatelic symposium celebrating the IYC, this paper will review some of the scientific meetings that have taken place at Priestley House over the past two centuries, and the philatelic evidence of these meetings. I will also briefly discuss some of Priestley's postal correspondence from Northumberland. Although the state staff was furloughed at the Priestley House, the site still operates through the generosity of The Friends of the Priestley House.

HIST 24: Gibbs, thermodynamics, visualization - all for just 37 cents!

Kenneth R. Jolls[(1)]*, jolls@iastate.edu, 2114 Sweeney Hall, Ames Iowa 50011-2230, United States . (1) Iowa State University, United States*

J. Willard Gibbs was too early to win a Nobel Prize. He didn't become a household name like Einstein, Pauling, or Watson and Crick. He didn't develop a popular audience as did Carl Sagan. And people didn't smile at him the way they did with Richard Feynman. But Josiah Willard Gibbs prescribed the analytical methods that have placed some of nature's most formidable powers into the hands of those who would try to wield them. "Strange, abstract, deep, difficult, impenetrable" -- all words that have been applied to the tools of Gibbsian thermodynamics. But not so! The careful observer will find in them not only scientific but artistic beauty and explanations that satisfy both sides of the brain. And now also the front side of an envelope.

HIST 25: Chemical philately and the story of the quantum

C. Marvin Lang[(1)]*, cmlang@uwsp.edu, Chemistry Department, Stevens Point WI 54481-3897, United States. (1) Chemistry Department, University of Wisconsin – Stevens Point, United States*

When someone asks you "*What's new?*" have you ever considered responding … "*c over lambda!*" To the chemist and physicist, such a play on words suggests an understanding of the concepts of quantum theory. An equal response to "*What's nu?*" might be "*E over h*." These and many other theoretical principles are expressed on postage stamps and philatelic materials issued by .many nations of the world. This presentation will attempt to weave a thread between individuals and their respective contributions to Quantum Theory.

HIST 26: Curie semipostal stamps of 1938

Ronald Hill[(1)]*, hillwright@mac.com, 7590 West Caley Drive, Littleton Colorado 80123, United States ; Daniel Rabinovich*[(2)]*. (1) NA, United States (2) University of North Carolina at Charlotte, United States*

Marie and Pierre Curie were commemorated on a special omnibus issue of semi-postal stamps issued around the world in the fall of 1938. France and 21 of its colonies issued special stamps with an added surcharge to raise funds for the l'Union Internationale Contre le Cancer (l'UICC), which raised funds for the study, treatment and (ideally) the cure of cancer. Stamps of Monaco, Cuba and Afghanistan related to this effort will also be illustrated in this presentation, as is a detailed description of the design of these stamps.

HIST 27: Aluminum on stamps: A tribute on the 125th anniversary of the Hall-Héroult process

Daniel Rabinovich[(1)]*, drabinov@uncc.edu, 9201 University City Boulevard, Charlotte North Carolina 28223, United States . (1) The University of North Carolina at Charlotte, United States*

The industrial production of aluminum by the high-temperature electrolysis of alumina (Al2O3) dissolved in molten cryolite (Na_3AlF_6) was developed independently and almost simultaneously in 1886 by Charles Martin Hall in the United States and Paul Héroult in France. This presentation will literally describe the world of aluminum from cradle to grave, from the mining and purification of bauxite throughout the world to the recycling of discarded aluminum products, as illustrated on postage stamps and other philatelic materials (maximum cards, first day covers, special cancellations, etc.). The unique combination of physical properties that this ubiquitous metal exhibits (low density, high electrical conductivity, malleability, resistance to corrosion) and its impact on society, including the construction, transportation, and food industries, will also be highlighted in this presentation.

HIST 28: Why does ACS need an accessible history of its presidents?

Joseph S. Francisco[(1)]*, francisc@purdue.edu, 560 Oval Drive, West Lafayette IN 47907, United States . (1) Department of Chemistry, Purdue University, West Lafayette IN 47907, United States*

How did the Past Presidents Project (P3) originate? What is contained in the P3? How did the idea of this project develop to include an accessible history of the ACS presidents? What information will be on each president's web page now and in the future? Why does the project look for patterns in the backgrounds, experiences, and achievements of the presidents? Is it not intriguing that the history will never be completed, that every ACS member is a potential contributor?

HIST 29: What does an ACS president do besides pontificate?

William F Carroll[(1)]*, William_F_Carroll@oxy.com, 5005 LBJ Freeway, Suite 2200, Dallas TX 75244, United States . (1) Occidental Chemical Corporation, Dallas TX 75244, United States*

Why does a person run for the office of ACS president, and become a part of a three-year journey as president-elect, president and immediate past president? In addition to serving as a national and international representative of the chemical sciences to other chemists, a member of the ACS presidential succession interacts with students at all levels, the general public, government bodies, and the media. They carry out many activities in order to achieve their presidential goal(s), whatever they might be. Further, the president presides at two national meetings, visits several regional meetings and a score of other Board meetings and activities. In order to manage all these tasks, they must possess excellent communication skills, strong powers of persuasion, lots of energy and the support of staff, colleagues, bosses and family.

HIST 30: Who were the first ACS Presidents?

Patricia L Perez[(1)]*, PatTheChemProf@yahoo.com, 776 Teakwood Lane, San Dimas CA 91773, United States . (1) Project Inclusion, San Dimas CA 91773, United States*

In this presentation I will explore the beginnings of our organization, the American Chemical Society. This historical overview will focus on the experiences, careers and years of service of the first five (5) ACS presidents. The presidents were John W. Draper (1876), J. Lawrence Smith (1877), Samuel W. Johnson (1878), T. Sherry Hunt (1879), and Frederick A. Genth (1880). Each of these individual chemists brought his own background and vision that laid the foundation for the current American Chemical Society.

HIST 31: Anna J. Harrison - After 102 years, the first ACS woman president

Lucy P. Eubanks[(1)]*, eubankslucy@bellsouth.net, 335 Woodland Way, Clemson SC 29631, United States . (1) Department of Chemistry, Clemson University, Clemson SC 29634, United States*

In 1978, Anna Jane Harrison became the first woman to be elected ACS President. This major leadership role was an appropriate recognition of her career as a pioneer educator and researcher and honored the traditions of excellence set by her predecessors. Her impact upon me, her former student, was significant, expanding my networks and enriching my understanding of the relationships among science and society. Her vision and leadership in guiding the policies of the ACS and other scientific organizations was profound, improving interactions with regulatory agencies, developing programs for non-science majors as well as majors, and expanding our understanding of what it means to be a professional chemist. Anna Harrison received the ACS Award in Chemical Education in 1982, and her humility and vision of leadership were captured in this quotation from her award address: “The fundamental reason for joining any professional society is that we achieve collectively that which none of us can achieve individually.”

HIST 32: Reflections on the ACS presidents at the end of the 20th century

Bruce E. Bursten[(1)]*, bbursten@utk.edu, 418 Buehlen Hall, Knoxville TN 37996, United States. (1) Department of Chemistry, University of Tennesse, Knoxville, Knoxville TN, United States*

From my point of view as the 2008 ACS president, I would like to reflect on the impact of the presidents of the American Chemical Society in the 1980s and 1990s. What were their major accomplishments and successes? How did their actions and decisions affect the direction of ACS policies and activities over this particular period of time? How did they influence the interactions of the ACS with other scientific societies, in the United States and abroad? And how did these actions become the foundation for my term of service?

HIST 33: Do you want to know more about the ACS presidents? Select acs.org instead of Wikipedia?

Janan M Hayes[(1)]*, janan.hayes@yahoo.com, 6829 Barbara Lee Cir, Sacramento CA 95842, United States. (1) Project Inclusion, Sacramento CA 95842, United States*

This P3 project started because one had to go to Wikipedia to get a complete list of the ACS presidents. One result of the project is a collection of the vast amount of information on our past presidents. We will report some interesting trends and statistics gleaned from that information. One of the major products of this project is a new page on acs.org. This page, ACS Past Presidents, will be introduced at this symposium. Not only will there be a complete list of the presidents but also a link to a page for each with a picture and basic information. Behind that page will be a growing series of pages with more detailed information and links for each president. This will be a dynamic source for the future use of ACS members, educators, students and the general public.