

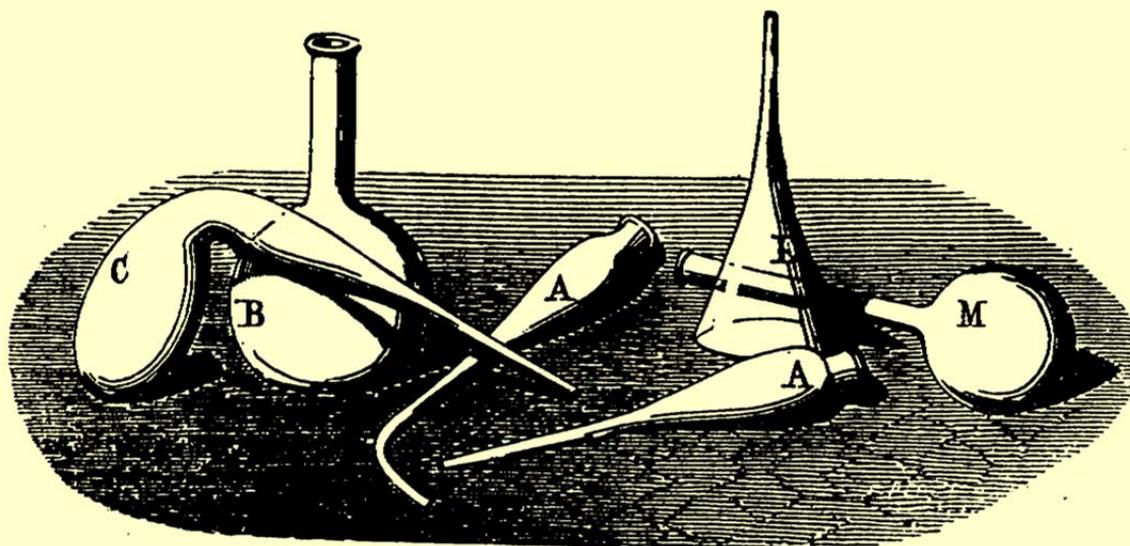


ACS
Chemistry for Life®



American Chemical Society

DIVISION OF THE HISTORY OF CHEMISTRY



NEWSLETTER, PROGRAM AND ABSTRACTS

247th ACS National Meeting
Dallas, TX
March 16-20, 2014

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Mission Statement

The Division of the History of Chemistry (**HIST** - <http://www.scs.illinois.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 Ned Heindel, HIST Division Chair

We (HIST) may be small but we're mighty! The Program Chair and the Executive Committee have been diligent in arranging general programming, symposia, awards, and publications. Elsewhere in this newsletter you'll learn about our 2014 HIST Division award winner, an international scholar especially recognized for his work in the history of chemical industry. The committee for selection of the outstanding paper is at work and will shortly announce its decision. Our Division's topical symposia are scheduled beyond the Dallas meeting into San Francisco, Boston, and the 2015 PacificChem International meeting. Two HIST loyalists are publishing books linked to divisional symposia and this includes Mary Virginia Orna's coauthorship of a book on "Lost Elements" and Natalie Foster's coauthorship (with the late Jack Stocker) of a book on "A Festival of Chemistry." We always appreciate our members' scholarly presentations and we invite you to submit your work for future national meetings of the Division.



Ned D. Heindel, HIST Chair

Report of Councilors, Division of the History of Chemistry ACS National Meeting, Indianapolis, IN; September 8-12, 2013

Election Results

- The Committee on Nominations and Elections presented to the Council the following slate of candidates for membership on the **Committee on Committees** beginning in 2014: Mitchell R. M. Bruce, Janet L. Bryant, Dee Ann Casteel, Amber S. Hinkle, Wayne E. Jones, Jr., V. Michael Mautino, Jason E. Ritchie, Sharon P. Shoemaker, Russell W. Johnson, and Ralph A. Wheeler. By electronic ballot, the Council elected Janet L. Bryant, Dee Ann Casteel, Amber S. Hinkle, Wayne E. Jones, Jr., and V. Michael Mautino for the 2014-2016 term.
- The Committee on Nominations and Elections presented to the Council the following slate of candidates for membership on the **Council Policy Committee** beginning in 2014: Harmon B. Abrahamson, Arindam Bose, Judith H. Cohen, Alan M. Ehrlich, Martha G. Hollomon, Paul J. Smith, Ellen B. Stechel, and Angela K. Wilson. By electronic ballot, the Council elected Harmon B. Abrahamson, Judith H. Cohen, Alan M. Ehrlich, and Angela K. Wilson for the 2014-2016 term.

- The Council Policy Committee presented to the Council the following slate of candidates for membership on the **Committee on Nominations and Elections** beginning in 2014: Lisa M. Balbes, Jeannette E. Brown, Martha L. Casey, Dwight W. Chasar, D. Richard Cobb, Catherine E. Costello, Lissa Dulany, Kevin J. Edgar, Paul W. Jagodzinski, and Robert A. Pribush. By electronic ballot, the Council elected Lisa M. Balbes, Jeannette E. Brown, Martha L. Casey, D. Richard Cobb, and Lissa Dulany for the 2014-2016 term

Candidates for President-Elect and Board of Directors

- The candidates for the fall 2013 ACS national election were announced as follows:

Candidates for President-Elect, 2014

Dr. G. Bryan Balazs, Associate Program Leader, Lawrence Livermore National Lab, Livermore, CA

Dr. Charles E. Kolb, Jr., President and CEO, Aerodyne Research Inc., Billerica, MA

Dr. Diane Grob Schmidt, Section Head R&D, The Procter & Gamble Company, Cincinnati, OH

Candidates for Directors-at-Large, 2014-2016 (two will be elected)

Dr. Susan B. Butts, Independent Consultant, Susan Butts Consulting, Midland, MI

Dr. Thom H. Dunning, Jr., Director, National Center for Supercomputing Applications and Professor, Distinguished Chair for Research, University of Illinois at Urbana-Champaign, Urbana, IL

Dr. Dorothy J. Phillips, Retired, Waters Corporation, Milford, MA

Dr. Kathleen M. Schulz, President, Business Results, Inc., Albuquerque, NM

Candidates for District II Director, 2014-2016

Dr. George M. Bodner, Arthur Kelly Distinguished Professor of Chemistry Education and Engineering, Purdue University, West Lafayette, IN

Dr. Alan A. Hazari, Director of Chemistry Labs and Lecturer, University of Tennessee, Knoxville, TN

Candidates for District IV Director, 2014-2016

Dr. Rigoberto Hernandez, Chemistry and Biochemistry, Georgia Institute of Technology, Atlanta, GA

Dr. Larry K. Krannich, Professor Emeritus of Chemistry, University of Alabama, Birmingham, AL

Committee Reviews

- As part of a regular committee performance review, the Council voted to continue the joint Board-Council Committee on International Activities and the Council Other Committee on Nomenclature, Terminology and Symbols. Continuation of the Committee on International Activities also requires Board of Directors concurrence.

Committee Charters Approved

- The Council voted to approve amendments to the charters of the committees on International Activities and on Nomenclature, Terminology and Symbols.

Realignment of Electoral Districts

- ACS Bylaws require that the six electoral districts – from which six directors are elected to the ACS Board of Directors – be balanced in their total member populations. The Council voted to approve a proposal by the Committee on Nominations and Elections to realign these districts. The realignment meets the specified criteria for redistricting as required by Bylaw V, Section 4a and brings all six districts within permissible population range. This change takes place in 2014 and does not affect the 2013 national ACS elections. Councilors and others may visit the N&E website to look at the actual proposal and its impact.

Meeting Registration Report

- As of the morning of September 11, 2013, the ACS fall national meeting had attracted 10,840 registrants, including 6,630 regular attendees and 2,584 students.

Local Sections

- The Council voted, on the recommendation of the Committee on Local Section Activities (LSAC), to approve a request from the Syracuse Local Section to change its name to the Central New York Local Section. Council also approved a recommendation from LSAC that the Monmouth County Local Section (in New Jersey) be dissolved, effective January 1, 2014, due to a decline in activity over the last several years. The North Jersey Local Section has contacted LSAC and will submit a petition in 2014 to annex the Monmouth County territory.

Divisions

- After much debate, a proposed name change for the Division of Colloid and Surface Chemistry to the Division of Colloids, Surfaces, and Nanomaterials was defeated by the Council in a close vote.

Special Discussion Item

- A special discussion item was put on the Council agenda for this meeting. ACS President Marinda Wu presented and moderated a discussion on “What can we – as the Society and as individual citizens – do to help create jobs or demand for chemists?” She shared five recommendations from the presidential task force “Vision 2025: Helping ACS Members to Thrive in the Global Chemistry Enterprise” and what they might imply for our efforts to help create jobs: discover and share information about the skills and competencies that a wide range of employers will need; continue to expand resources which help our members to position themselves for successful careers in the global chemistry enterprise; enable entrepreneurs to create and strengthen their startups that hire chemistry professionals; advocate for policies that improve the business climate and promote the creation of chemistry jobs; and work with other stakeholders to understand and influence the supply and demand of chemists and jobs. Following the presentation, numerous Councilors engaged in a discussion of this focused topic on possibilities to encourage jobs creation and offered several suggestions.

Actions of the Board of Directors

- The Board of Directors received reports from its committees on Planning, Executive Compensation, Grants and Awards (G&A), Budget and Finance (B&F) and the working group on Society Program Portfolio Management.
- The Board held a lengthy strategic issue discussion on the topic “Connecting Chemists with Each Other.” It considered what the role of ACS should be in helping chemists develop relationships with other chemists and the strategies that enable those relationships; how these strategies encourage and support younger and international members; and how these strategies develop relationships to leverage the world renowned chemists/innovators that comprise our membership.
- On the recommendation of the Committee on Grants and Awards, the Board voted to approve Society nominations for the National Science Board’s Public Service Award and the National Science Foundation’s (NSF) Alan T. Waterman Award. The National Science Board’s Public Service Award honors individuals and groups that have made substantial contributions toward increasing public understanding of science and engineering in the US. The Alan T. Waterman Award recognizes an outstanding young researcher in any field of science or engineering supported by the NSF.
- The working group on Society Program Portfolio Management briefed the Board on its activities. The working group is charged with delivering a process for portfolio management of Society programs in the divisions of Membership and Scientific Advancement, Education, and the Office of the Secretary and General Counsel (Office of Public Affairs) and pilot programs.
- The Board received a briefing and approved a recommendation from its Committee on Executive Compensation. The compensation of the Society’s executive staff is regularly reviewed by the Board.
- On the recommendation of the Committee on Budget and Finance (B&F), the Board voted to approve an advance member registration fee of \$380 for national meetings held in 2014. The Board also voted to reauthorize funding in next year’s proposed budget for the ACS International Center, and the ACS

Entrepreneurial Initiative, and to authorize funding for a new initiative, the National Association of Chemistry Teachers (NACT). This association will be an ACS program to provide teachers a professional home. Through NACT they will have access to specialized resources and the broader ACS community.

- The Board confirmed the recommendation of the ACS Executive Director/CEO of the new President of Chemical Abstracts Service (CAS). He is Manuel (Manny) Guzman, most recently Executive Vice President of Learning and Research Solutions of Cengage Learning. Mr. Guzman succeeds Robert J. Massie, who is retiring after leading CAS with great distinction and success for 21 years and is retiring in March 2014. Mr. Guzman will begin September 30. Mr. Massie will assist in the transition when he returns from medical leave.

The Executive Director/CEO Report

- The Executive Director/CEO and her direct reports updated the Board on the following: highlights and high-level recommendations on the ACS global presence; and the activities of CAS (Chemical Abstracts Service) and the ACS Publications Division. As a follow-up to the Publications report, the Board voted to approve one journal editor appointment and several editor re-appointments.

Other Society Business

- The Board also voted to hold the December 2015 Board of Directors meeting in Honolulu, Hawaii, in conjunction with the 2015 International Chemical Congress of Pacific Basin Societies (Pacifichem). The ACS is the host society for the 2015 Pacifichem meeting, and co-location will allow Board members to participate in this very successful Pacifichem meeting.
- Finally, the Board received reports from the Presidential Succession on their current and planned activities for the remainder of 2013 and 2014.

Activities of HIST Councilors

Mary Virginia Orna – has completed six years on the Council Policy Committee and was ineligible for re-election. She has therefore been appointed an associate on the Local Section Activities Committee for 2014. Joe Jeffers, attending Council in Mary Virginia's absence, is a member of the Multidisciplinary Program Planning Group.

Roger Egolf – continues to serve on the Divisional Activities Committee and chairs the DAC Constitution and Bylaws Subcommittee. He also serves as DAC liaison to the Constitution and Bylaws Committee of Council and the HIST and SCB Divisions.

Mary Virginia Orna, Roger A. Egolf, Councilors

Professor Ernst Homburg to Receive 2014 HIST Award

The History of Chemistry Division of the American Chemical Society is pleased to announce Professor Ernst Homburg as the winner of its 2014 HIST award. This international award for contributions to the history of chemistry has been granted since 1956 under sequential sponsorships by the Dexter Chemical Company, the Edelstein Foundation, the Chemical Heritage Foundation, and the History of Chemistry Division. The event, consisting of a monetary presentation, a plaque, a symposium honoring the work of Professor Homburg, and a lecture by the awardee, will take place on 12 August 2014 at the American Chemical Society's annual meeting in San Francisco, California.

The 2014 winner, Ernst Homburg, was born in 1952 in Venlo, The Netherlands. After studying at the Protestant Lyceum, he studied at the Municipal University, Amsterdam, where he received M.Sc. in chemistry and at the University of Nijmegen where he received a Doctoral degree in History. From 1972 to 1993 he served at various posts in history and technology at the Universities of Amsterdam, Groningen, Nijmegen, and Eindhoven. From 1993 to present he has served as Assistant Professor, then Professor, in

the Department of History at the University of Maastricht, The Netherlands. With his broad background, Dr. Homburg is one of the leaders in the history of modern chemical industry and technology. He has been involved as a co-organizer and writer in two multi-volume book series on the history of European technology in the 19th and 20th centuries, as well as a multitude of other books and papers. He has been president of a number of organizations that have promoted the history of technology and science throughout Europe and other parts of the world. As an influential speaker, Dr. Homburg is known for his conciseness and fresh viewpoints, with an ability to change viewpoints without any display of ego or discourtesy.

HIST to Host Symposium at PACIFICHEM 2015

The History of Chemistry Division of the American Chemical Society has organized a symposium for 2015 International Chemical Congress of Pacific Basin Societies (Pacifichem 2015), which has been formally accepted as part of the preliminary technical program. The symposium is entitled *Historical Evolution of the Chemical Community in the Countries of the Pacific Rim* and is organized by HIST officers Seth Rasmussen and Gary Patterson, along with co-organizers Trevor Levere (Canada), Yasu Furukawa (Japan), and Ian David Rae (Australia). Anyone interested in potentially participating in the symposium should contact either Seth Rasmussen (seth.rasmussen@ndsu.edu) or Gary Patterson (gp9a@andrew.cmu.edu) for further information.



Pacifichem 2015 will take place in Honolulu, Hawaii, USA, December 15-20, 2015. The conference is sponsored jointly by ACS, the Canadian Society for Chemistry (CSC), the Chemical Society of Japan (CSJ), the New Zealand Institute of Chemistry (NZIC), the Royal Australian Chemical Institute (RACI), the Korean Chemical Society (KCS), and the Chinese Chemical Society (CCS). The host society for the 2015 Congress is ACS.

HIST Facebook Page Continues to Attract Followers

The community following the HIST Facebook page has grown to 165 official followers (i.e. 'likes'), up by 30% from the last update in the previous HIST Newsletter. As in the past, the majority of those reached via the HIST Facebook are still younger people in their 20s and 30s (69% are aged 18-35), most of which are not HIST or even ACS members. In addition, 74% of our followers are from various international communities (39 different countries!) without traditional access to activities of the division. The HIST 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. If you are a Facebook user, please stop by and check out these efforts to share our passion of the subject with the world. Then 'Like' the page to join us and post comments to share the history of chemistry with the world!

Seth C. Rasmussen, HIST Facebook Page Administrator



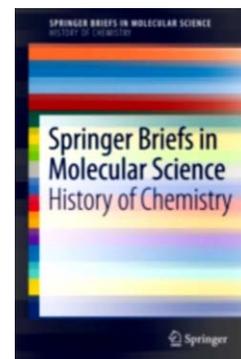
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Springer Briefs in Molecular Science: History of Chemistry Seeks New Authors

Two new volumes in this series were published this last fall: *László Zechmeister: His Life and Pioneering Work in Chromatography*, by Michaela Wirth, and *Up from Generality: How Inorganic Chemistry Finally Became a Respectable Field*, by Jay A. Labinger. Two additional volumes should be released in the upcoming months and several more volumes are currently being written and edited. All volumes are currently available via Springer or Amazon in both softcover or ebook formats.

With the goal to add even more volumes in the upcoming year, new authors are



being sought for potential new volumes. Volumes are 50-125 pages in length, presenting concise summaries of historical topics covering all aspects of chemistry, alchemy, and chemical technology. Authors interested in discussing potential topics for future volumes should feel free to contact the Series Editor, Seth Rasmussen (seth.rasmussen@ndsu.edu). Please visit <http://www.springer.com/series/10127> for more detailed information on available volumes and guidelines for submitting volume proposals.

Seth C. Rasmussen, Series Editor

Message from the HIST Program Chair

Hello once again from your humble HIST Program Chair. I am happy to report that we have a fairly healthy lineup of programming for the upcoming meeting in Dallas, which consists of two and a half days of talks spanning three focused symposia, as well as our regular General Papers session on Sunday morning. In addition, Vera Mainz will be presenting the HIST tutorial for Dallas, entitled *HIST Tutorial: Chemistry and materials for energy – A history of batteries*. The only weakness in the Dallas programming is our representation in SciMix, where we will only have a single poster to represent the division. As a reminder, SciMix is the single best opportunity for us in HIST to share the history of chemistry with the rest of the ACS membership, **most of which are unaware that ACS even has a HIST division!** As such, please consider participating in SciMix when submitting your abstracts to HIST. While it does mean preparing a poster in addition to your regular oral presentation, it goes a very long way in promoting the division and contributing to its continued health and prosperity.



In other programming-related news, the Abstract System Replacement Advisory Group (of which I serve as a member) continues to work towards the pending replacement of PACS. For those who might have missed the announcement, ACS and the Advisory Group have selected the Scholar One system, owned by Thompson Reuters, as the replacement for PACS. Scholar One is also the system currently in use by ACS Publications for all manuscript submissions, reviewing, etc. and thus many of us within the Advisory Group have confidence in its ability to meet our needs in abstract submissions and conference programming. The Advisory Group is currently beginning the process of system testing, with the goal of having new system in place for the Denver (Spring 2015) call for papers.

As always, if you have programming ideas or would like to provide suggestions or feedback, please don't hesitate to let me know (seth.rasmussen@ndsu.edu).

Seth C. Rasmussen, HIST Program Chair

HIST SYMPOSIA, 247th ACS Meeting in Dallas, TX, March 16-20, 2014

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

Bringing Chemistry to the Public: A Historical Look at the Popularization of Chemistry

Cosponsored by CHED

This half-day symposium aims to present the various ways that have been undertaken through the past two to three centuries to make chemistry more accessible to audiences of all ages, including popular books, science kits, and more recently - TV programs. The symposium will be **Sunday afternoon**, March 16, at the Omni Dallas Hotel – South Side 1.

N. V. Tsarevsky, Organizer

Fifty Years of the James Flack Norris Award: The Foundations of Physical Organic Chemistry

Cosponsored by NESACS and ORGN

Fifty years ago, in 1965, Sir Christopher Ingold [of S_N1, S_N2 and (R,S)-Cahn-Ingold-Prelog fame] received the first James Flack Norris Award in Physical Organic Chemistry. The following five years saw Louis P.

Hammett, Saul Winstein, George S. Hammond, Paul D. Bartlett and Frank H. Westheimer receive that award. This ACS national award has honored the world's greatest physical organic chemists for their contributions to this field. To celebrate the Golden Jubilee of the James Flack Norris Award in Physical Organic Chemistry, HIST is showcasing a celebratory symposium at the Dallas ACS National Meeting. Twelve previous recipients of the James Flack Norris Award in Physical Organic Chemistry will participate. Arthur Greenberg will also present a lecture on James Flack Norris, the man and his science and the session will conclude with a panel discussion to highlight the excitement and achievements of physical organic chemistry in the 20th Century. The symposium will be **Monday morning and afternoon**, March 17, at the Omni Dallas Hotel – South Side 1.

J. Seeman and E. Strom, Organizers

History of Chemistry in North Texas

Cosponsored by ACS DFW

This symposium features four histories of chemistry departments in the Dallas-Fort Worth Metroplex and the history of three industrial laboratories in the same area. The University of Texas at Arlington, Texas Christian University, and the University of North Texas all have histories dating back over 100 years, while the University of Texas at Dallas only came into existence in 1968. The 1970s saw the flowering of all four institutions as their chemistry graduate programs came into existence. Texas Instruments and the Mobil Field Research Laboratory date back to the 1930s, although under different names, while Alcon Laboratories was founded by two pharmacists in 1945. All three industrial laboratories made significant advances in their respective areas. Regrettably, the Mobil Field Research Laboratory went out of existence with the purchase of Mobil by Exxon. The symposium will be **Tuesday morning**, March 18, at the Omni Dallas Hotel – South Side 1.

E. Strom, Organizer

UPCOMING NATIONAL MEETINGS AND HIST DEADLINES

Offerings are subject to change. Check the [HIST website](#) for updates.

San Francisco, August 10-14, 2014

Submit your abstract via the online ACS Program and Abstract Creation System (PACS) by **March 14th, 2014**. 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

HIST Award Symposium Honoring Ernst Homburg. (Invited) Peter Morris, Science Museum, Exhibition Road London, SW7 2DD United Kingdom, Email: peter.morris@sciencemuseum.ac.uk; Gary D. Patterson, Department of Chemistry, Carnegie Mellon University, 4400 Fifth Avenue, Pittsburgh, PA 15213, Phone: 412-268-3324, Email: gp9a@andrew.cmu.edu

Found and Lost: Incredible Tales of Spurious, Erroneous and Rehabilitated Elements (Invited and **Seeking contributors**) Mary Virginia Orna, Department of Chemistry, College of New Rochelle, New Rochelle, NY 10805, Phone: (914) 654-5302, Email: maryvirginiaorna@gmail.com; Marco Fontani, Email: marco.fontani@unifi.it

Science and Legacy of Attila Pavlath (Invited and **Seeking contributors**) Jan Hayes, Hayes, 6829 Barbara Lee Circle, Sacramento, CA 95842, Phone: (916) 331-6886, Email: janan.hayes@yahoo.com

Symposium on the HIST Citation for Chemical Breakthrough Award Program (Invited) Jeffrey I. Seeman, Department of Chemistry, University of Richmond, Westhampton Drive, Richmond, VA 23173, Phone: (804) 794-1218, Email: jiseeman@yahoo.com

Denver, March 22-26, 2015

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

News from the Chemical Heritage Foundation

The [Chemical Heritage Foundation](#) (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.

Kiran Mazumdar-Shaw to Receive the 2014 Othmer Gold Medal

Kiran Mazumdar-Shaw, chairman and managing director, Biocon Limited, will receive the 2014 Othmer Gold Medal at the Chemical Heritage Foundation on Thursday, May 15. The Othmer Gold Medal presentation will be the premier event of CHF's 13th annual Heritage Day. Kiran Mazumdar-Shaw is a pioneer of the biotechnology industry in India and the head of that country's leading biotechnology enterprise. She is a first-generation entrepreneur, using the knowledge and skills she gained in becoming India's first female brewmaster to create a globally recognized biopharma enterprise. Biocon, India's largest insulin maker, developed pichia-based recombinant human insulin, which Biocon distributes to more than 40 countries. Under Mazumdar-Shaw's leadership Biocon has become a well-recognized global brand. Named among TIME magazine's 100 most influential people in the world, Mazumdar-Shaw has made affordable innovation the foundation of her business model. Recently, the Economic Times placed her among India's top 10 most powerful female chief executives for 2012. Nature Biotechnology named her the most influential biotechnology businessperson outside Europe and the United States.

Kiran Mazumdar-Shaw will be the 20th recipient of the Othmer Gold Medal and the third woman to receive CHF's most coveted award. CHF established the Othmer Gold Medal in 1997 to honor outstanding individuals who have made multifaceted contributions to our chemical and scientific heritage through outstanding activity in such areas as innovation, entrepreneurship, research, education, public understanding, legislation, or philanthropy. The medal is presented annually and cosponsored by CHF and four affiliated organizations: the American Chemical Society (ACS), the American Institute of Chemical Engineers (AIChE), the Chemists' Club, and the Société de Chimie Industrielle. The medal commemorates Donald Othmer (1904–1995), noted researcher, consultant, editor, engineer, inventor, philanthropist, professor, and coeditor of the Kirk-Othmer Encyclopedia of Chemical Technology.

Lynwood Swanson to Receive Pittcon Heritage Award

The Chemical Heritage Foundation (CHF) will present the 2014 Pittcon Heritage Award to Lynwood W. Swanson, cofounder and former chairman, CEO, and chief scientist of FEI Company. Swanson will receive the award in recognition of his establishment and leadership of one of the world's largest instrument companies, as well as his landmark development of liquid-metal ion sources. He founded FEI Company in 1973 and led this producer of electron- and ion-beam instruments for three decades. In 2012 FEI ranked among the top 15 instrumentation companies in the world.

This 13th annual award will be presented at Pittcon 2014 in Chicago. The award will be presented at the opening plenary session on Sunday, March 2. Jointly sponsored by the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Pittcon) and CHF, this award recognizes outstanding individuals whose entrepreneurial careers have shaped the scientific instrumentation community, inspired achievement, promoted public understanding of the modern instrumentation sciences, and highlighted the role of analytical chemistry in world economies.

In the early 1970s Swanson became a professor of applied physics at Linfield College. In 1973 he created his own start-up, Field Electron and Ion (FEI), to commercialize field emission-based beam sources for electron microscopes and other devices. He then moved to a professorship at the Oregon Graduate Institute of Science and Technology near Hillsboro and relocated his company nearby. By the early 1980s Swanson had a substantial field-emission academic research group, and FEI had grown to become a major supplier of electron and ion sources. In these years FEI created a focused ion beam for microelectronics work for Intel Corporation, which eventually led to FEI becoming the major producer of these instruments for the semiconductor industry. In 1987 Swanson left his academic post to run FEI full time as its CEO.

Swanson personally pioneered the commercialization of advanced electron- and ion-beam sources for electron microscopy and focused ion-beam instruments. In the mid-1990s, after taking FEI public, Swanson merged FEI with Philips's long-standing electron microscope division and with a rival ion-beam instrument producer. In the early 21st century FEI became a leading producer of scanning and transmission electron microscopes, as well as dual-beam instruments that combine focused ion beams with electron microscopy and other analytical detectors.

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.

Special November Issue of *Ambix*

The 4th issue of *Ambix* is a special issue guest edited by Tara Nummedal (Brown University), which features four articles on 'Alchemy and Religion in Christian Europe'. This special issue highlights the work of established scholars alongside two recent PhDs and members of the SHAC Graduate Network: Georgiana (Jo) Hedesan and Donna Bilak. The volume spans the thirteenth to the eighteenth centuries, considers Catholic, Protestant, and Jewish perspectives, and incorporates alchemists' scholarly, medical, and transmutation aspirations to explore some of the distinctive ways that alchemy resonated with medieval and early modern religious culture.

First Issue of Sources of Alchemy and Chemistry

SHAC is proud to announce the launch of a new series of monograph-length volumes: *Sources of Alchemy and Chemistry: Sir Robert Mond Studies in Early Chemistry*. This series provides critical editions and English translations of some of the foundational texts in the history of alchemy and early chemistry. The series is named in honour of the Society's first and only President, Sir Robert Mond (1867–1938). The publication of this series has been made possible by the extremely generous support of Robert Temple, and will be made available free of charge to all SHAC members.

The series is under the general editorship of Professor Lawrence M. Principe (Johns Hopkins University) and Dr. Jennifer M. Rampling (University of Cambridge). The international editorial board is comprised of Professor Charles Burnett (Warburg Institute), Dr Michèle Mertens (Université de Liège) and Professor Cristina Viano (CNRS, Paris).

The first monograph in the series is one of the earliest known chemical texts: the *Four Books of Pseudo-Democritus*, edited by Dr Matteo Martelli (Berlin). Martelli presents not only a fresh edition and

translation of the surviving Greek fragments, but also, for the first time, additional materials preserved in Syriac. The volume also presents important examples of the medieval and early modern reception of these writings, including the dialogue of Synesius and Dioscorus – the most influential Byzantine commentary on the *Four Books* – and previously unpublished Latin translations of both the *Four Books* and Synesius' commentary made by Matthaëus Zuber in 1606. Accompanied by a full introduction and commentary, these sources offer new and significant insights into the world of ancient chemistry: practical recipes and lists of ingredients, clues to the doctrinal content of ancient alchemy, and early hints of a tradition that linked the alchemist 'Democritus' to the wisdom of Egypt and Persia.

News from the History of Science Society

The History of Science Society is the world's largest society dedicated to understanding science, technology, medicine, and their interactions with society in historical context. It was founded in 1924 to foster interest in the history of science and its social and cultural relations.

Spontaneous Generations: A Journal for the History and Philosophy of Science—Call for Papers

"Spontaneous Generations" is an open, online, peer-reviewed academic journal published by graduate students at the Institute for the History and Philosophy of Science and Technology, University of Toronto. It has published seven issues and is a well-respected journal in the history and philosophy of science and science and technology studies. We invite interested scholars to submit papers for our eighth issue. We welcome submissions from scholars in all disciplines, including but not limited to History and Philosophy of Science (HPS), STS, History, Philosophy, Women's Studies, Sociology, Anthropology, and Religious Studies. Papers examining any time period are welcome.

The eighth issue of *Spontaneous Generations* will appear in September 2014. Submissions for the eighth issue should be sent no later than March 14, 2014. For more details, please visit the journal homepage at <http://spontaneousgenerations.library.utoronto.ca>.

Final Program

HIST

DIVISION OF THE HISTORY OF CHEMISTRY

S. C. Rasmussen, *Program Chair*

SUNDAY MORNING

Section A

Omni Dallas Hotel - South Side 1

HIST Tutorial and General Papers

S. C. Rasmussen, *Organizer, Presiding*

- 8:30 1.** HIST Tutorial: Chemistry and materials for energy – A history of batteries. **V. Mainz**
- 9:10 2.** Serendipity and the prepared mind: the discovery of the antitumor drug, cisplatin. **J. D. Hoeschele**
- 9:40** Intermission.
- 9:55 3.** Familial and historical influences on the lives of renowned scientists. **R. C. White**, J. H. White, V. B. Keen
- 10:25 4.** Miroslaw Kernbaum and the curious case of planetary peroxide. **R. L. Hudson**
- 10:55 5.** Philatelic tribute to the IYCr: Crystallography on stamps. **D. Rabinovich**

SUNDAY AFTERNOON

Section A

Omni Dallas Hotel - South Side 1

Bringing Chemistry to the Public: A Historical Look at the Popularization of Chemistry

Cosponsored by CHED

N. V. Tsarevsky, *Organizer, Presiding*

- 1:00** Introductory Remarks.
- 1:05 6.** Historical overview of popular chemistry books: From the early days to mid XXth century. **N. V. Tsarevsky**
- 1:40 7.** Popularization of chemistry in France just prior to World War I. **P. Laszlo**
- 2:15 8.** The popularisation of chemistry through Little Blue Books. **W. P. Palmer**
- 2:50** Intermission.
- 3:05 9.** Popular 20th-century books for the amateur home chemist. **W. B. Jensen**
- 3:40 10.** Chemistry at play: A look at popularizing chemistry through kits and their effectiveness throughout the years. **S. R. Woodruff**
- 4:15 11.** Breaking bad: Getting good science to the public via TV. **D. J. Nelson**

James Flack Norris Award in Physical Organic Chemistry: Symposium in Honor of Matthew S. Platz

Sponsored by ORGN, Cosponsored by HIST

SUNDAY EVENING

Omni Dallas Hotel - Arts District 4

5:00 - 8:00 HIST Executive Committee Meeting

MONDAY MORNING

Section A

Omni Dallas Hotel - South Side 1

Fifty Years of the James Flack Norris Award: The Foundations of Physical Organic Chemistry

Cosponsored by NESACS, ORGN, and PRES‡

J. Seeman, *Organizer*

E. Strom, *Organizer, Presiding*

8:55 Introductory Remarks.

9:00 12. James Flack Norris: a pioneer in chemical education and his early contributions in physical organic chemistry. **A. Greenberg**

9:30 13. Some thermochemical studies in the 1960s and 70s. **E. M. Arnett**

10:00 14. Aromaticity and conductivity in molecular wires. **R. Breslow**

10:30 Intermission.

10:45 15. Hydrogen isotopes in physical organic chemistry. **A. Streitwieser**

11:15 16. Adventures in Physical Organic Chemistry. **J. I. Brauman**

Benefits of Chemistry in our Lives

Sponsored by PRES, Cosponsored by AGFD, AGRO, CHAS, CINF, CPRC, ENFL, ENVR, HIST, I&EC, MEDI, PMSE, and POLY

MONDAY AFTERNOON

Section A

Omni Dallas Hotel - South Side 1

Fifty Years of the James Flack Norris Award: The Foundations of Physical Organic Chemistry

Cosponsored by NESACS, ORGN, and PRES‡

E. Strom, *Organizer*

J. Seeman, *Organizer, Presiding*

1:55 Introductory Remarks.

2:00 17. Norbornyl Cation Isomers Still Fascinate. **P. Schleyer**

2:30 18. Physical organic chemistry with computations: Pericyclic reactions. **K. N. Houk**

3:00 Intermission.

3:15 19. Understanding Electron Transfer Reactions: A Case Study in Physical Organic Chemistry. **M. R. Wasielewski**

3:45 Panel Discussion. J. Baldwin, N. Porter, M. Platz, H. Reich, J. D. Roberts, M. Wasielewski. J. Baldwin, N. Porter, M. Platz, H. Reich, J. D. Roberts, M. Wasielewski.

MONDAY EVENING

Section A

Dallas Convention Center - Hall F

Sci-Mix

S. C. Rasmussen, *Organizer*

8:00 - 10:00

1. See previous listings.

TUESDAY MORNING

Section A

Omni Dallas Hotel - South Side 1

History of Chemistry in North Texas

Cosponsored by ACS DFW

E. Strom, *Organizer*

M. Reinecke, *Presiding*

8:25 Introductory Remarks.

8:30 20. 140 Years of chemistry at Texas Christian University. **M. G. Reinecke**

9:00 21. History of the Texas Instruments research laboratories. **S. C. O'Brien**

9:30 22. Chemistry at the University of North Texas. **J. L. Marshall**

10:00 23. Mobil Field Research Laboratory in Dallas: An unexpected world class center in magnetic resonance. **E. T. Strom**

10:30 Intermission.

10:45 24. Chemistry at the College in Arlington. **T. J. Cogdell**

11:15 25. History of Alcon Laboratories. **D. L. Dunn**

11:45 26. Short History of Chemistry at the University of Texas at Dallas. **A. D. Sherry**

Synthesis and Applications of Conjugated Materials: Contributions from Texas and Beyond

History and Synthesis

Sponsored by POLY, Cosponsored by HIST

TUESDAY AFTERNOON

Synthesis and Applications of Conjugated Materials: Contributions from Texas and Beyond

OPVs, OLEDs, and FETs

Sponsored by POLY, Cosponsored by HIST

TUESDAY EVENING

Poster Session

Sponsored by COMP, Cosponsored by BIOL, CINF, COLL, ENFL, ENVR, FLUO, GEOC, HIST, I&EC, INOR, MEDI, ORGN, PHYS, PMSE, POLY, TOXI, and YCC

Synthesis and Applications of Conjugated Materials: Contributions from Texas and Beyond

Posters

Sponsored by POLY, Cosponsored by HIST

WEDNESDAY MORNING

Synthesis and Applications of Conjugated Materials: Contributions from Texas and Beyond

Synthesis

Sponsored by POLY, Cosponsored by HIST

WEDNESDAY AFTERNOON

Synthesis and Applications of Conjugated Materials: Contributions from Texas and Beyond

Theory, Characterization and Electronic Applications

Sponsored by POLY, Cosponsored by HIST

HIST 1 - HIST tutorial: Chemistry and materials for energy – a history of batteries

Vera Mainz, mainz@illinois.edu. University of Illinois at Urbana-Champaign, Urbana, IL, United States

Alessandro Volta reported the construction of what is usually recognized as the first battery in 1800. His device, usually referred to as a voltaic pile, was composed of a series of silver and zinc disks in pairs, each of which was separated with a sheet of pasteboard saturated in salt water. The voltaic pile was not useful for delivering currents for long periods of time. This problem was resolved in 1836 by the invention of the Daniell (voltaic) cell. The Daniell cell was supplanted by another technological development in 1859 – the lead acid (Plante) battery. And was itself supplanted in time. This talk will consist of a short history of the chemical and material developments that have led to the modern batteries in use today.

HIST 2 - Serendipity and the prepared mind: The discovery of the antitumor drug, cisplatin

James D Hoeschele, hoeschel@msu.edu. Chemistry, Eastern Michigan University, Ypsilanti, Michigan 48197, United States

The serendipitous discovery of anticancer activity of Cisplatin by Dr. Barnett Rosenberg, Loretta Van Camp and co-workers at Michigan State University (1960's) led to the world-wide use of one of the most important anticancer drugs in the history of cancer chemotherapy. The clinical success of Cisplatin, the first metal-based anticancer drug approved by the FDA (1978), inspired a renaissance in the field of Contemporary Bioinorganic Chemistry. This talk will chronologically highlight the fascinating details of the discovery of Cisplatin, a 5-year effort. The discovery is a prime example of the optimal use of the scientific method of observation, hypothesis and the testing of hypotheses.

HIST 3 - Familial and historical influences on the lives of renowned scientists

Rick C. White¹, chm_rcw@shsu.edu, Janis H. White², Valencia B. Keen². (1) Department of Chemistry, Sam Houston State University, Huntsville, TX 77341, United States (2) Department of Family and Consumer Sciences, Sam Houston State University, Huntsville, TX 77341, United States.

Familial influences as well as historical influences on renowned scientists will be discussed. For example, although Richard Kuhn came from a Jewish heritage, his career flourished under Hitler and although Fritz Haber wanted to help secure a victory for Germany with minimal human loss by advocating chemical warfare, his chemist wife disagreed and committed suicide. Emil Fischer's failure at his father's business led him to go to college to learn chemistry. Marie Curie's parents instilled in her a love of education and she escaped Tsarist controlled Poland to flourish in France. These will be discussed in terms of students' approach to education and their research activities.

HIST 4 - Miroslaw Kernbaum and the curious case of planetary peroxide

Reggie L. Hudson, reggie.hudson@nasa.gov. Astrochemistry Laboratory, NASA Goddard Space Flight Center, Greenbelt, Maryland 20771, United States.

In 1999 it was reported that hydrogen peroxide had been detected on the surface of Europa, one of Jupiter's icy moons, by an infrared spectrometer on board NASA's Galileo spacecraft. This discovery constituted the first observation of H₂O₂ beyond our planet, and it raised the question of how this molecule could be made in outer space at a temperature near 100 K. The answer goes back over a century to an almost-forgotten young researcher named Miroslaw Kernbaum (1882 - 1911) who worked with Marie Curie in the early days of radiation-chemical research. In this presentation, Kernbaum's work will be reviewed and the line from his lab bench to Jupiter will be traced. Despite the many intervening years of effort, significant gaps and uncertainties remain in the study of extraterrestrial peroxide. -- Professor Andrzej Chmielewski of the Institute of Nuclear Chemistry and Technology in Warsaw, Poland is acknowledged for help with this presentation.

HIST 5 - Philatelic tribute to the IYCr: Crystallography on stamps

Daniel Rabinovich, *drabinov@uncc.edu*. Department of Chemistry, The University of North Carolina at Charlotte, Charlotte, North Carolina 28223, United States.

The 1914 Nobel Prize in Physics was awarded to Max von Laue “for his discovery of the diffraction of X rays by crystals”, a seminal discovery that is one of the key sources of inspiration for many of the celebrations taking place during the International Year of Crystallography (2014). Milestones in the history of X-ray crystallography, from the observation of crystals in nature (e.g., gemstones, minerals, snowflakes) to the discovery of X rays by Wilhelm Röntgen (1895) and the key contributions of von Laue and the Braggs, will be described in this presentation and illustrated with postage stamps and other philatelic materials. A number of stamps depicting the molecular structures of a variety of organic and inorganic compounds will also be shown to underscore the importance of X ray diffraction to chemistry, biochemistry, mineralogy, medicine, physics, and related fields.



HIST 6 - Historical overview of popular chemistry books: From the early days to mid 20th century

Nicolay V. Tsarevsky, *nvt@smu.edu*. Department of Chemistry, Southern Methodist University, Dallas, TX 75275, United States.

The field of popular science, which was born in XVIth century (an example of an early book being “Natural Magic” by G. Porta (ca. 1535-1615), bloomed during the Age of Enlightenment in the works of thinkers, philosophers, and professional scientists, who were passionate about the dissemination of knowledge. A number of popular science essays and books began to appear in the XVIIIth century that aimed to explain complicated scientific concepts to the laypersons, who were either too young to be exposed to science or were older but had not been given the chance to learn about science due to various socioeconomic reasons. Early works on the usefulness of science and particularly chemistry and chemical technology often concentrated on a specific application or field, such as agriculture, cooking, art, technology, or medicine. Gradually, more comprehensive books were offered to the public, often including illustrations or descriptions of experiments. Some were in the form of case studies or short stories, while others were written as dialogues. The development of popular chemistry books will be traced, from the essay “On the Usefulness of Chemistry” by T. Bergman (1735-1784) to “A Chymical Catechism” by S. Parkes (ca. 1759-1829), to “Conversations on Chemistry” by J. Marcet (1769-1858), to similar books by J. Liebig (1803-1873), W. Ostwald (1853-1932), and other, more or less theoretical, works. Additionally, books describing experiments of various degrees of complexity were published, which encouraged and inspired the readers to experiment at their own homes, including “The Young Chemist's Pocket Companion” by J. Woodhouse (1770-1809), and “Chemistry No Mystery” and “A Manual of Chemical Analysis for the Young” by J. Scoffern (1814-1882). More contemporary publications, which were quick to incorporate the most recent developments of science and to present them in a coherent and accessible fashion will also be described.

HIST 7 - Popularization of chemistry in France just prior to World War I

Pierre Laszlo, *pierre@pierrelaszlo.net*. Department of Chemistry, Ecole polytechnique, Palaiseau, IdF 91128, France.

On the verge of becoming a professor of chemistry at Ecole polytechnique — a university level French institution of the first rank, but a military school as well, a kind of a cross between MIT and West Point — Georges Darzens published in 1912 *Initiation chimique*, a popularization for the general public. My talk, besides analyzing this book, will replace it in its historical context. It was marked by the Dreyfus Case. Darzens was asked to write this book by a fellow Dreyfus supporter, C.A. Laisant, a polytechnicien like Darzens, a mathematician who had started a collection of popularization texts with the Parisian publisher Hachette. Darzens and Laisant also shared belief in progress through science, they had a commitment to popular education and to socialism.

HIST 8 - Popularisation of chemistry through Little Blue Books

William P. Palmer, *bill_palmer15@hotmail.com*. *The Science and Mathematics Education Centre, Curtin University of Technology, Perth, WA, Australia.*

The five hundred million Little Blue Books, with about 200 different titles, published by Emanuel Haldeman-Julius from his printing presses situated at Girard in Kansas between 1919 and 1951, were an important influence on American education. Three Little Blue Books exist that attempt to explain Chemistry to students and the general public; they are: 1) Chemistry for Beginners (#679) by Hereward Carrington; 2) The Chemistry of Familiar Things(#1352) by Lawrence A. Barrett; and 3) The Wonders of Modern Chemistry, the Principles on Which They Are Based (#1771) by Joseph McCabe. Specifically for schools, about sixty Little Blue Books on all topics were packaged together as a set and made available to students at a price of about \$3.00. About 250,000 of these sets were sold to schools and students; the chemistry book in the set was entitled Chemistry for Beginners. The simple thesis is that if one quarter of a million books of one chemistry title were sold to students, then it would have been a major, though unrecognised, factor in popularising chemistry to younger Americans. Similarly the other two chemistry titles communicated an interest in chemistry to the general public and these also sold well. Additionally there are another half dozen Little Blue Books whose content also relates to chemistry that also assisted in communicating chemistry to the general public.

HIST 9 - Popular 20th-century books for the amateur home chemist

William B. Jensen, *jensenwb@ucmail.uc.edu*. *Department of Chemistry, University of Cincinnati, Cincinnati, OH 45221, United States.*

There are many ways to popularize chemistry, including itinerant lectures, books emphasizing the modern industrial fruits of chemistry, chemistry sets, videos, radio talks, television documentaries, and products intended for the amateur home laboratory enthusiast. This talk will deal with books created for the latter market, and though this genre can be traced back to the early 19th century, if not earlier, it will focus on 20th century examples, with emphasis on the first half of the century and such authors as A. Frederick Collins, Raymond F. Yates, and Alfred P. Morgan.

HIST 10 - Chemistry at play: A look at popularizing chemistry through kits and their effectiveness throughout the years

Shannon R Woodruff, *swoodruff@smu.edu*. *Department of Chemistry, Southern Methodist University, Dallas, TX 75275, United States.*

Chemistry education has a wide history in targeting younger generations in the comfort of their own homes. The most prominent of these methods has been the development of various portable chemistry sets and kits. These sets heightened in popularity in the mid-20th century with those made by established toy companies such as the A. C. Gilbert Company (famed for their patented Erector set), but the existence of chemistry sets as educational aids can be traced back well into the 18th century. Over the years, these sets grew in what equipment and chemicals they included, until the mid-1960s, when concerns about safety started to take rise. This presentation will take a look at the evolution of chemistry sets over the years as well as how these changes have affected their usefulness as educational aids.

HIST 11 - Breaking bad: Getting good science to the public via TV

Donna J Nelson, *djnelson@ou.edu*. *Department of Chemistry, University of Oklahoma, Norman, OK 73019, United States.*

Personal experiences in assisting Breaking Bad producers, writers, and actors with science will be discussed. Thoughts on how to make such advising desirable and successful will be offered.

HIST 12 - James Flack Norris: A pioneer in chemical education and his early contributions in physical organic chemistry

Arthur Greenberg, *art.greenberg@unh.edu*. Department of Chemistry, University of New Hampshire, Durham, New Hampshire 03870, United States.

James Flack Norris (b. 1871) received his Ph.D. with Ira Remsen at Johns Hopkins University (1895) and joined the Chemistry faculty at M.I.T. In 1904 he became the first chemistry professor at Simmons College, a college for women, in Boston. He was responsible for establishing the curriculum and laboratories at Simmons. He remained at Simmons until 1915, taking a one-year leave (1910-11) during which he spent a sabbatical year with Fritz Haber in Karlsruhe. Following one year at Vanderbilt University in Tennessee, Norris rejoined the faculty at M.I.T. and spent the remainder of his career there until he died (1940). Professor Norris had married Anne Bent Chamberlin in 1902. When Mrs. Norris died in 1948, her will provided a bequest establishing the The Norris Fund, administered by the Northeast Section of the American Chemical Society. The James Flack Norris Award for Outstanding Achievement in Teaching was established in 1950 and awarded to George Shannon Forbe in 1951. The James Flack Norris Award in Physical Organic Chemistry was established in 1963. The first three awardees, Christopher K. Ingold (1965), Louis P. Hammett (1966), and George S. Hammond (1967) are prominent in every physical organic chemistry textbook well into the twenty-first century. Indeed, Hammett was the only recipient of Norris awards in teaching (1960) and physical organic chemistry. The presentation in this symposium will describe the impact of Norris as teacher and researcher in the context of his times (especially during the 1920s and 1930s).

HIST 13 - Some thermochemical studies in the 1960s and 70s

Edward M. Arnett, *edward.arnett@duke.edu*. Department of Chemistry, Duke University, Durham, North Carolina 27708, United States.

Initial commentary will refer to the occasionally stressful emergence of physical organic chemistry as an interdisciplinary field which benefitted greatly from post WWII instrument development. Design of a simple calorimeter in the speaker's laboratory allowed the measurement of solvent-solute interactions over the entire range from weak hydrogen bonding to heats of formation of stable carbonium ions in superacids or of carbanions in superbases.

HIST 14 - Aromaticity and conductivity in molecular wires

Ronald Breslow, *rb33@columbia.edu*. Department of Chemistry, Columbia University, New York, NY 10027, United States.

It is common to use aromatic molecules such as thiophene in nanoscale molecular wires, but we have seen that aromaticity adds extra resistance as connecting to them from gold leads causes the contribution of a quinoid structure. We have studied a number of aromatic systems in break junction conductivity measurements. The result is that the best conductors are non-aromatic, and even perhaps antiaromatic if distortion is minimized.

HIST 15 - Hydrogen isotopes in physical organic chemistry

Andrew Streitwieser, *astreit@berkeley.edu*. Chemistry, University of California, Berkeley, Berkeley, CA 94720-1460, United States.

Deuterium and tritium have been important tools in physical organic chemistry, as tracers as well as by kinetic and equilibrium isotope effects. Examples of different types will be given, many of which come from my laboratory during my first few decades at Berkeley.

HIST 16 - Adventures in physical organic chemistry

John I Brauman, *brauman@stanford.edu*. Department of Chemistry, Stanford University, Stanford, California 94305-5080, United States

Historical background for some of our advances and discoveries in gas phase ionic chemistry will be discussed.

HIST 17 - Norbornyl cation isomers still fascinate

Paul Schleyer, *schleyer@chem.uga.edu*. Department of Chemistry, University of Georgia, Athens, GA 30602, United States

While Scholz, et al.'s (Science, 2013, 341, 62) 2-exo-norbornyl cation X-ray determination brought long overdue closure to the vituperative structure controversy, this report summarizes other remarkable issues currently engaging research groups worldwide. The 2-endo-norbornyl cation also has a bridged minimum, as does the 7-cation. J. I. Wu, et al. find that Cs and C_{2v} symmetry forms of the latter are anti-aromatic. Unexpectedly, Duncan, et al.'s gas phase protonation of norbornene gives the 1,3-dimethylcyclopentyl cation, the C₇H₁₁⁺ global minimum. Merino, et al.'s molecular dynamics simulations reveal many acyclic as well as monocyclic intermediates along the reaction pathway, and that the known 1- to 2-norbornyl cation isomerization involves a far more complex mechanism than a direct, 1,2-hydride shift.

HIST 18 - Physical organic chemistry with computations: Pericyclic reactions

Kendall N. Houk, *houk@chem.ucla.edu*. Department of Chemistry and Biochemistry, University of California Los Angeles, United States

During the history of the James Flack Norris Award, computations have become a powerful tool for the investigation of organic reaction mechanisms. This lecture will describe how quantum mechanical and molecular dynamics calculations have complemented experimental studies of pericyclic reactions and stepwise analogs to give time-resolved insights into mechanisms.

HIST 19 - Understanding electron transfer reactions: A case study in physical organic chemistry

Michael R Wasielewski, *m-wasielewski@northwestern.edu*. Department of Chemistry, Northwestern University, Evanston, Illinois 60208-3113, United States

A wide range of important processes ranging from photosynthesis to charge transport in organic semiconductors depend on movement of electrons between molecules and within materials. For example, we have used complex, covalent molecular systems comprising chromophores, electron donors, and electron acceptors to mimic both the light-harvesting and the charge separation functions of photosynthetic proteins. These synthetic systems have been used to study the dependencies of electron transfer rate constants on donor-acceptor distance and orientation, electronic interaction, and the free energy of the reaction. The most useful and informative systems are those in which there are structural constraints to control both the distance and the orientation between the electron donors and acceptors. We have extended this approach to understanding how long distance charge transport occurs in systems as diverse as self-assembling organic charge transport materials and DNA. Using modern time-resolved spectroscopic techniques and the strategies of physical organic chemistry, significant progress has been made in understanding electron transfer reactions in chemistry, biology, and materials science.

HIST 20 - 140 Years of chemistry at Texas Christian University

Manfred G. Reinecke, *m.reinecke@tcu.edu*. Department of Chemistry, Texas Christian University, Fort Worth, Texas 76129, United States

Texas Christian University was founded in 1873 in Thorp Springs, Texas as the first university west of the Mississippi to enroll women. TCU moved to Waco and then to Fort Worth in 1910 and hired its first degreed chemist in 1920 and its first PhD chemist in 1928. The first of 83 Chemistry MS degrees was awarded in 1934 and the first Chemistry PhD degree in North Texas in 1967. The first Robert A. Welch Chair of Chemistry in North Texas was then established at TCU in 1974 and filled by Paul D. Bartlett from Harvard University until 1985, by David Gutsche (1989-2002) from Washington University (St. Louis) and, since 2010 by Eric Simanek from Texas A&M. The present department has 12 full-time faculty members, all with PhD degrees, 9 post-doctoral fellows and 25 PhD track graduate students. TCU has graduated over 150 Chemistry PhD students and has over 2000 citations in SciFinder.

HIST 21 - History of the Texas Instruments research laboratories

Sean C O'Brien, *sobrien@ti.com*. *Digital Light Processing, Texas Instruments, Dallas, TX 75243, United States*

From the oilfields of Louisiana to the battlefields of Desert Storm and the Beijing Olympics Texas Instruments has pioneered fundamental research technology and produced devices which have changed our lives. Scientists and engineers such as Gordon Teal, Jack Kilby, and George Heilmeier have given us inventions and innovations which have transformed our world and enabled near instantaneous voice and data communications. TI Labs including Central Research, Materials Science, and Kilby Laboratories have changed the way we think about technology. In this talk we will learn about the people involved in research at TI.

HIST 22 - Chemistry at the University of North Texas

James L. Marshall, *jimm@unt.edu*. *University of North Texas, United States*

The Department of Chemistry of the University of North Texas has just commemorated its centennial, which began with W. N. Masters in 1910. At its grand celebration, a history of the Department was presented, a story which will be retold at the Dallas ACS National Meeting.

HIST 23 - Mobil Field Research Laboratory in Dallas: An unexpected world class center in magnetic resonance

E. Thomas Strom, *tomstrom@juno.com*. *Department of Chemistry and Biochemistry, University of Texas at Arlington, Arlington, TX 76019-0065, United States*

Mobil Corp. carried out exploration and production research from the 1940's to the 1990's at their Dallas laboratory, known for a time as the Field Research Laboratory. For a 10-15 year period from the late '50's to the early 70's, the Field Research Laboratory did some of the best NMR research in the world. This was a result of the confluence of three individuals, a talented NMR spectroscopist in Don Woessner, an innovative electrical engineer named Bob McKay, and a dynamic, aggressive group leader in John Zimmerman. Changing priorities and loss of key personnel eventually brought this era to an end.

HIST 24 - Chemistry at the College in Arlington

Thomas J Cogdell, *tcogdell@sbcglobal.net*. *Department of Chemistry and Biochemistry, University of Texas at Arlington, Arlington, Texas 76019, United States*

Arlington College was founded as a private school in 1895. It passed through seven reorganizations and name changes, becoming The University of Texas at Arlington in 1966. As Carlisle Military Academy it began a tradition of military discipline for its male students. The Texas legislature gave it public support in 1917, placing it under the administration of Texas A&M, which viewed it as a source of students to transfer to its College Station campus, providing steady but meager funding. It had a standard curriculum in chemistry for junior college and after 1949 for baccalaureate students. After a public campaign by students, faculty and business leaders throughout the region, the legislature transferred the college in 1965 to the University of Texas System, which began an orderly development of graduate programs, research accomplishments and public service. UTA is now noted for the diversity of its students.

HIST 25 - History of Alcon Laboratories

Danny L. Dunn, *dannyldunn@sbcglobal.net*. *Alcon Laboratories, Retired, Fort Worth, TX 76132, United States*

Alcon Laboratories was founded in 1945 by two pharmacists, Robert Alexander and William Conner. The new company was named using the first syllables of their last names. Both men felt that sterile eye medications needed to be readily available. Alexander and Conner continued to fill prescriptions during the day, and at night prepared sterile products using a blender and pressure cooker. While on a sales call to West Texas, Robert Alexander and a local physician created and patented the DROP-TAINER® eye drop dispensing bottle which is now the standard for eye care products. From these humble beginnings, Alcon was first purchased by Nestlé (1978) and then Novartis (2011). In the process, Alcon became the world's largest eye care company with sales of over \$10 billion and products in ophthalmology, surgical, and consumer care. The innovative leaders and products that fueled this amazing growth will be discussed.

HIST 26 - Short history of chemistry at the University of Texas at Dallas

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UT Dallas evolved from the Graduate Research Center of the Southwest (GRCSW), established by the founders of Texas Instruments in 1961 as a privately funded, basic research institution to aid the southwestern region of the United States in the advancement of graduate education in the natural sciences. In 1967, its name was changed to the Southwest Center for Advanced Studies (SCAS) and in 1968 it was integrated into The University of Texas System as UT Dallas. The areas of scientific emphases at SCAS at that time were Molecular Biology, Geosciences, Space and Atmospheric Sciences and Mathematics. All of the original SCAS scientists became faculty members of UT Dallas and the four existing graduate programs were authorized to award Ph.D. degrees. Four chemists were hired in 1972 and given authorization to award the MS degree in Chemistry. All of this began in a single building named Founders in a field in far North Richardson.

UT Dallas initiated upper-division undergraduate programs in 1975 with most students coming from local junior colleges. Chemistry created a non-standard curriculum when included integrated laboratory courses rather than the usual upper level analytical, physical and organic synthesis courses. Those same courses exist today. Freshman arrived on campus in the fall of 1990 and this event catalyzed the growth of UT Dallas to its current size of 22,000 students. Beginning in the early 1980's at the urging of Norman Hackerman and others, the chemistry faculty began planning a new type of doctoral program, one that would train PhD level students specifically for industrial careers in Chemistry. The Doctor of Chemistry program, initiated in 1985, awarded 61 Doctor of Chemistry degrees between 1990 and 2002. After the arrival of Ray Baughman and Alan MacDiarmid (2000 Nobel Prize in Chemistry) to initiate the NanoTech Institute at UT Dallas in 2002, a more traditional PhD program was requested and added to the Chemistry curriculum. Today, UT Dallas has 22 research-active Chemistry faculty and 76 PhD students.