August 27, 2014

To: SAS Governing Board

From: David S Trimble, Ph.D.

Subject: **Chemical Heritage Foundation**
SAS Delegate Report

I have been challenged by several members of the EC to better inform you in the ways CHF is important to the Society for Applied Spectroscopy, and how our membership might benefit from direct updates of CHF happenings.

How the CHF Serves the General Public, Scientific Scholars, and Member Organizations:

First we might start with the mission statement:

Mission Statement

To foster dialogue on science and technology in society.

CHF's staff and fellows study the past in order to understand the present and inform the future. We focus on the sciences and technologies of matter and materials and their effect on our modern world, in territory ranging from the physical sciences and industries, through the chemical sciences and engineering, to the life sciences and technologies.

We collect, preserve, and exhibit historical artifacts. We engage communities of scientists and engineers. We tell the stories of the people behind breakthroughs and innovations.

Here are some examples of how the CHF fosters dialogue in the community:

- First Fridays – Held at the CHF the first Friday of each month. These events are often informal, hands on and always interactive with the whole family in mind. September's topic is "Suited for Space".

- Science on Tap – Held monthly at the National Mechanics pub and brew house. This is a gathering to encourage public discussion on scientific topics in an informal setting. This month urban orchardist Phil Forsyth will discuss permaculture – in particular how we can create functioning, diverse environments within the city limits that mimic the natural systems within forests.

- Brown Bag Lectures (BBLs) are a series of weekly informal talks on the history of chemistry or related subjects.

More for the professional community:

- The Joseph Priestley Society (JPS) lecture series explores topics in science, technology, and industry through professional networking receptions and lectures by industry leaders. During this month's event Fernando Musa**,** CEO, Braskem America, will deliver the keynote address "Survival, Growth, and Perpetuity."

- **Heritage Day** is CHF's signature celebration of the achievements and promise of the sciences and technologies that shape material culture. Festivities include presentation of the Othmer Gold Medal; the Richard J. Bolte Sr. Award for Supporting Industries; and the AIC Gold Medal. **Heritage Day 2014** honored the accomplishments of three distinguished leaders: Kiran Mazumdar-Shaw, Ronald C. D. Breslow, and **Atsushi Horiba.** (yes – the Horiba whose company bears his name).

The facilities are world class:

- **The Othmer Library of Chemical History** collects, preserves, and makes accessible materials relating to the history of science, technology, and medicine, with an emphasis on chemistry and chemical engineering from ancient to modern times. The Othmer Library currently houses approximately 160,000 print and microform volumes, rare books and manuscripts, significant archival materials, and historical photographs of great value to researchers and our cultural heritage. Together these collections, spanning nearly 6 miles of shelves, form an unrivaled resource for the history of chemistry and related sciences, technologies, and industries.

- **The Museum at CHF** features permanent and changing exhibits that explore the fascinating history of chemistry and the role science plays in the modern world. I refer you to their web site for photos and a thorough description of the current exhibits: http://www.chemheritage.org/visit/museum/exhibits/index.aspx

How can I better let you and the membership know what events and happenings are scheduled? These might be the low hanging fruit…..

1. Through the national office provide email blasts. Any member of the CHF receives a lot of information by email.

2. Provide the EC and perhaps local section heads with complimentary copies of the CHF magazine, published three times per year.

3. Encourage any members to stay informed themselves via facebook or the CHF website itself.

4. Use the SAS website and facebook pages to pass along CHF information – by the way, all sponsoring organizations are supposed to have a link to the CHF on their web site …. I notice we don't?

The remainder of this report pertains to the spring meetings:

Instrument and Artifacts Committee:

This committee met as usual prior to the Heritage Council meeting. Efforts that were planned at that time included cataloging the instrument holdings to make the collection more useful to researchers, perhaps "crowd sourcing" organization and inventory of the stored instruments and associated "stuff" to locals and retirees. However staffing has suddenly become an issue. The committee was aware that Curator Jennifer Landry had resigned her position to pursue a wonderful opportunity out of state. Then more suddenly, this summer her successor resigned to become the Museum Curator at NIST. As of this writing I have not learned if a replacement has been identified or hired.

The Spring Heritage Council Meeting:

Significant highlights from the meeting are included below. For deeper reading the complete minutes of the meeting are attached.

New Heritage Council Chair – Gary Patterson. Gary's goals include making the Heritage Council a 365 day activity, not just twice a year. There is a vast experience base sitting on the council – he'd like to see us more involved and available to each other and to the CHF. He views the CHF and the HC as global organizations, and wishes to reach out across the waters. More information about Gary can be found: http://www.chem.cmu.edu/faculty/patterson.html

President's Report – Carsten Reinhardt. The CHF endowment is at an all-time high - $184M. We were very lucky this past year – we do not expect to repeat last year's market performance. Most (40%) of the operating budget still comes from members/donations. As with all organizations – we must become more dependent on individual donors as corporate and foundation grants are diminishing.

Carsten expanded on a collaborative effort with Columbia University to train the next generation of scholars in the history of science, especially the benefits of interdisciplinary work between the natural sciences and humanities. He has a vision of the establishment of a digital lab at CHF in the future that would again engage both scholars in the sciences and the humanities.

Patrick Shea – Chief Curator of Archives and Manuscripts. Best summary of his presentation is to quote his introductory remarks: "Unless an act of acquisition is subject to proper organization, cataloging, preservation and storage it is nothing but an act of hording." Shea went on to comment that digitization is a tool for access, not archiving. Paper lasts 500-1000 years, and electronic media 20 years in the best case. How do we archive email? Print it!

Ron Brashear – Director, Othmer Library of Chemical History. Ron spoke regarding the state of the art in digitization of collections. To comment of the daunting size of this task, Ron remarked "In another 15 years CHF will be up to the 20th century". He introduces the council to the "LOCKSS" principle (pronounced locks) – Lots Of Copies Keeps Stuff Safe. Modern practice is to have multiple redundant copies on servers kept *on different tectonic plates*.

Respectfully Submitted,

Dave Trimble

Minutes of the Thirtieth Heritage Council Meeting
Held at Chemical Heritage Foundation in Philadelphia on
May 14, 2014

These notes summarize the discussions, decisions, and action items made during the thirtieth Heritage Council meeting on May 14, 2014 at CHF in Philadelphia and were prepared by Bob Kenworthy of CHF. The meeting was held in conjunction with other governance related meetings from 10:30AM – 4:30PM.

MEETING ATTENDEES:
Affiliate Representatives/Members-at-Large/Observers:

David Alcorn – Member-at- Large
Gary D. Anderson – Alpha Chi Sigma Fraternity
Tom Archibald – AIChE
John P. Baltrus – PITTCON
Emmerson Bowes – Royal Society of Chemistry
Kathryn Bullock – Electrochemical Society (by telephone)
Mark C. Cesa – International Union of Pure and Applied Chemistry
Roger Egolf – Division of the History of Chemistry of the American Chemical Society
Anthony Dent – NOBBChE
Marc Donohue – Council on Chemical Research
Ernest Gilmont – Société de Chimie Industrielle
Michael Grayson – American Society for Mass Spectrometry
L. Louis Hegedus – National Academy of Engineering (Observer)
Ned Heindel – Member-at-Large
W. Richard Howe – Member-at-Large
Peter Lederman – Member-at-Large
David Manuta – American Institute of Chemists
Anne T. O'Brien – ACS
Gary Patterson – Member-at-Large
Joe Pilaro – Member-at-Large
Lew Boxenbaum – The Chemists' Club
Jeffrey I. Seeman, Chair – Member-at-Large
John Sharkey – ACS
A. Wayne Tamarelli – Joseph Priestley Society
David Trimble – Society of Applied Spectroscopy

Guests

Philip E. Rakita – Candidate for Member-at-Large, **Brigitte Van Tiggelen** – CHF Office of the President, Europe. **Edwin (Ted) Becker** – Former Member, **Evan Hepler-Smith** – Scholar/Presenter

Chemical Heritage Foundation Staff:

Carsten Reinhardt, Beth Alfaro, Ron Brashear, Carin Berkowitz, David Caruso, Shelley Geehr, Sarah Reisert, Jody Roberts, Patrick Shea, and Bob Kenworthy.

Thirtieth Meeting of the Heritage Council
of the Chemical Heritage Foundation
May 14, 2013
Agenda

This meeting of the Heritage Council members has two foci: the election of the next Chair of the Heritage Council; and an examination of 'The State-of-the-Art" in areas of critical interest to the Chemical Heritage Foundation

10:30 a.m. Welcome
Approval of October 10, 2013 Meeting Minutes

10:35 a.m. Round Table Introduction and General Reports
- Bolton Society
- Joseph Priestley Society
- Instrument and Artifacts Committee
- Membership Committee
- Nominating Committee

11:00 a.m. Election of the Next Chair of the Heritage Council
Outcome: The members of the HC will have the opportunity to learn the candidates' vision for the HC through presentations and Q&A and then voice their opinions in a vote for the next Chair.

- 10-minute presentation by each candidate
- 10-minute Q&A session
- The Election

12:00 noon Luncheon and Celebration of the Incoming HC Chair

1:00 p.m. President's Report
Outcome: Affiliates will gain an appreciation of CHF's new mission statement and Strategic Plan.

1:35 p.m. Presentation 1: Collecting and Archiving – Including the Challenges Presented by Digitization and Born Digital Records (Ron Brashear and Patrick Shea)

2:30 p.m. Presentation 2: Oral Histories (David Caruso)
Outcome: Affiliates will gain an appreciation of the State-of-the-Art in several areas of importance in CHF programming

3:00 p.m. Break

3:15 p.m. Meet a CHF staffer: Beth Alfaro, Human Resources Manager
Outcome: Affiliates will learn who Beth Alfaro is, what her job entails, and what she feels are her and CHF's highest priorities.

4:00 p.m. BCHOC Scholarly Presentation: Evan Hepler-Smith
"The Structure of Compounds, the Function of Nomenclature, and the History of Chemical Information"

4:30 p.m. Meeting Review

4:45 p.m. Other Business

5:00 p.m. Transfer of the Gavel. Words by the incoming Chair of the HC

"Sneak Peek" of "Suited for Space"

Two-20 minute tours/20 persons per tour - Clifford C. Hach Gallery

6:00 p.m. Spring Governance Dinner
Union League, 140 South Broad Street, Lincoln Memorial Room
Shuttle will depart CHF at 5:45 p.m. and return to CHF after dinner at approximately 9:00 p.m.

Welcome and Opening Remarks

Chair, Jeffrey Seeman, welcomed all to the meeting and outlined the flow of the meeting including the election of the next Heritage Council Chair. He described the process is being followed and the fact that the meeting was being attended to by at least one member by telephone conference call. He then announced the changes in the membership of the Heritage Council since the last meeting. Jeff then asked each member to introduce him/herself including the newly hired Director – Office of the President, CHF Europe, Brigitte Van Tiggelen, who attended the meeting as a guest preceding her employment by CHF on July 1st.

Approval of Minutes

The Minutes from the October 10, 2013 meeting were approved unanimously.

General Reports

Bolton Society

Gary Patterson reported for the Bolton Society and which he noted continues to be a working part of CHF. Gary reported that new members are joining and international membership is growing. He noted that founding member, Herb Pratt, was remembered reverently at this morning's meeting. Noting that the publication ***Boltonia*** is now an e-newsletter, Gary pointed out that the latest issue contained elegies for Jim Bohning and Herb Pratt as well as a report on the successful SHAC/Bolton meeting in London in November 2013. At that London meeting, the day at the Royal Institution in London was the Annual General Meeting of the Society for the History of Alchemy and Chemistry. Speakers from the Bolton Society included Gary Patterson, Ned Heindel, Ron Brashear, Ron Smeltzer and Jim Voelkel. The group also toured Cambridge and Oxford with Robert Anderson as guide.

Gary went on to report that the latest oral history for David Sparkman is now approaching publication and the next volume will be Arnold Thackray. Finally, he reported that the Collectors Showcase included a rare volume by Berzelius(1814) on "Mineralogy", a very rare book on the "Transits of Venus" by Benjamin Martin (1761), and a scholar's copy of "A New Method of Chemistry" by Herman Boerhaave (1727).

Joseph Priestley Society

Wayne Tamarelli reported on the nature and character of the Joseph Priestley Society noting that the concept still has value to CHF and continues to change in response to the changing needs of CHF. The full detail report on JPS activities was given in writing with the agenda for this meeting and is attached to these minutes as Attachment I.

Instrument and Artifact Committee (HCIAC)

Mike Grayson reported for the HCIAC. He reported that Jennifer Landry announced that she was resigning to take a position at the Scouting Museum in Irving TX. May 29, 2014 is her final day at CHF.

The group acknowledged Jenn's contributions during her service. Mike also reported that Kristen Frederick-Frost reviewed the collections activities since their last meeting and acknowledged the challenges facing her in balancing the desire to collect with the space to hold that collection. For example, select items from the Beckman Institute relating to X-ray crystallography were collected. These were primarily models of various crystal structures. Kristen chose only models for which she could 'tell the stories and processes behind the items'. The *50 most important instruments* has been discontinued as a collection goal, since most of the items have been collected or could no longer be found.

DuPont is offering a collection of dyes to CHF. This contact will be explored in the coming months. Kristen would like help with assessing this collection. It was suggested that the successor to Herb Pratt, Martha Carper, would be the ideal individual to help in this regard. Kristen would like to approach the collection process with a view to contextualizing scientific instruments with tales, touch, and technology. This would involve matching stories with objects, the use of augmented reality via the cell phone, and better use of the educational prop collection.

Membership Committee

There was no report from the Membership Committee.

Nominating Committee

In the physical absence of Kathryn Bullock, Bob Kenworthy read her report and, on behalf of the Heritage Council Nominating Committee nominated Philip E. Rakita to serve as member-at-large. The Heritage Council elected him unanimously.

Specific Reports

Election for Chair of the Heritage Council

The election process as outlined in the agenda and earlier mailings began with the three nominees for the position of Chair, Marc Donohue, Mike Grayson, and Gary Patterson, each presenting himself and answering questions. Specifically, the three offered the following in answer to the question of how he would address the future value of the Heritage Council to CHF and of CHF to the individual affiliates represented on the Heritage Council:

Marc Donohue:

Stated his belief that the greatest opportunity for the Heritage Council to increase its impact and the impact of the CHF overall is by having the HC members each work with CHF staff and their affiliate organizations to find ways for CHF to participate in the affiliate organizations' meeting activities. He suggested the following:

- Increase the desirability of Heritage Council organizations to use CHF facilities for events such as Board meetings, etc.
- Have affiliates jointly sponsor (or endorse) exhibits at CHF. If possible, consider having some CHF exhibits tour and be presented at affiliates' annual meetings.
- Have Heritage Council member organizations make presentations to the Heritage

Council or larger CHF groups about the goals, purposes, and exciting things happening in their organizations at CHF events.
- Have CHF staff (fellows and permanent staff) give lectures at the annual (or other) meetings of the affiliates.

Mike Grayson:

Mike Grayson pointed out that the Heritage Council provides affiliates with a unique entrée to the resources of the Chemical Heritage Foundation and that every Heritage Council member should ensure that their affiliated society is fully aware of these resources and the possibilities for their utilization. He specifically encouraged the following:

- Affiliated societies should consider establishing a joint Oral History program with CHF, Co-sponsor oral histories of outstanding individuals of their choice, and help define CHF's wider Oral History Program.
- Ensure that every affiliated society has a PROMINENT link back to the CHF web-page, link CHF's web site to their web sites, produce higher visibility for the Heritage Council on the CHF web-site, and produce an affiliate web-page on CHF web-site devoted specifically to the history of that affiliate.
- Feature one affiliate in each issue of *Chemical Heritage* magazine with news about the history of the affiliate, information about an important member or upcoming anniversaries, and recent significant news.
- Promote and assist the formation of an office or officer within each affiliated society whose charter is to promote the history of the field and that society.
- Create a 'go to' group of Heritage Council members to assist CHF with technical issues.
- Produce a 'VIP' pass for members of affiliated societies when visiting CHF in Philadelphia.
- Produce higher visibility for the Heritage Council in CHF Vision and Strategic Plan.
- Aggressively promote the "Six CHF Offers of Assistance" among affiliates.
- Draw on and help build the resources of CHF's Othmer Library of Chemical History
- Sponsor joint awards and other forms of recognition.
- Produce joint programming (e.g., symposia, conferences, member-specific activities).
- Support joint research on the heritage of chemistry and related sciences, technologies, and industries, and on contemporary issues, in areas of mutual interest. Encourage affiliates to assist important members in securing their papers with CHF

Gary Patterson:

Stressed his desire to implement the Mission Statement of the Heritage Council and promised the following actions if elected:

- To get to know each member personally and to serve as a sounding board and clearing house for information.
- To make the Heritage Council a 365 day a year activity, rather than just a twice yearly opportunity to sit and eat.

- To work to make the vast knowledge and experience base of the members available to CHF and to each other.
- To reach out to the world chemical community and identify other organizations that would make a logical addition to the Heritage Council.
- To represent the views and interests of the Heritage Council on the Board of CHF.

After each presentation and Q&A, as well as at the end of all three, Jeff Seeman complimented the candidates and urged the entire HC to follow through on many if not all of the ideas, recommendations and suggestions being offered by the candidates (and not necessarily focus just on those of the candidate who would eventually be elected). Once the presentations were finished, the election was held by secret ballot. There were 25 people voting (including Kathryn Bullock by telephone). Since no candidate received a majority on the first ballot – the votes were split 9,8,8 – additional ballots were required. A runoff was conducted between Mike Grayson and Marc Donohue – Grayson prevailing by a vote of 13-12. On the third ballot (between Mike Grayson and Gary Patterson), Gary Patterson received 16 votes and was elected to be the next chair of the Heritage Council. This final result was announced to the Heritage Council as they were eating lunch.

President's Report

Following lunch, the Heritage Council meeting resumed with the president's report. Carsten Reinhardt presented the current state of implementation of the strategic plan. Since the members of the Heritage Council had previously seen this plan, Carsten focused on the implementation steps being taken now.

CHF is seeking new employees to be hired into two expanded groups both of which will operate under the overall umbrella of research into materials and material culture. He explained the collaborative work with Columbia University to train the next generation of scholars in the history of science. This partnership aims to foster advanced scholarship in interdisciplinary work between the natural sciences and humanistic inquiry and research. Bringing CHF together with Columbia University will have benefits for joint work among the sciences, the humanities, and social sciences, and will provide opportunities to combine laboratory and humanistic research, as well as to explore digital dimensions of research on early modern history of science that can be shared beyond the two institutions.

Carsten also announced that CHF has received a $3 million grant from the Arnold and Mabel Beckman Foundation for the Beckman Legacy Project that, over its 4 year life, will increase public understanding of Beckman's social impact, based on the digitization of Beckman archival materials, original historical research, and the development of video- and web-based outreach. Carsten then outlined his vision of the establishment of a digital lab at CHF in the future. Such a lab would engage scientists as well as historians in the work. The exchange and feed-back processes are critically important as CHF moves into its future.

Collecting and Archiving – Including the Challenges Presented by Digitization and Born Digital Records

Patrick Shea, Chief Curator of Archives and Manuscripts, gave the Heritage Council a presentation on the CHF Archives and the state of the art in archiving the records of scientific research and related topics. He first discussed how archives are identified, appraised and selected, giving photographic examples of

the condition of archival materials as found. Following this, Patrick then presented the process of acquisition and accession of these records pointing out the importance of organization of the material and the production of a finding guide. He made sure that the Heritage Council understood that records as not an archive until such organization and searchability is established. Patrick finished with a presentation of the issues involved with preservation including security and disaster planning. His slides are given as Attachment II to these minutes.

Following Patrick's presentation, Ron Brashear, Arnold Thackray Director, Othmer Library of Chemical History, talked about the state of the art in digitization of collections. He first clarified the meaning of "Digitization" as not simply the scanning and imaging of materials, but essentially a complicated set of activities that includes scanning/imaging, then ingest of those materials into a database with appropriate metadata, the managing of a complex database of digital objects that have many different properties and descriptors, the issues of storage of these digital assets, providing useful access to the assets by staff, researchers, and the public, and finally a long-term process of preserving digital assets so they can be read in the future and not deteriorate.

Ron pointed out that CHF has been scanning & imaging materials for some time but has paid scant attention to how to store them properly and provide access afterwards. Examples of some of CHF's efforts can be found on the Library OPAC (http://othmerlib.chemheritage.org/search), the CHF Website (http://www.chemheritage.org/discover/collections/search.aspx), and Flickr (https://www.flickr.com/photos/chemheritage/). Ron pointed out that the idea going forward is to better manage CHF's digital assets, to put some thought into what is digitized, and to systematize the process. Good examples of how CHF might do that can be found on other institutions' websites (we don't have to reinvent the wheel) such as:

a. The Ransom Center at the University of Texas uses CONTENTdm software to manage and provide access to its digital assets: http://hrc.contentdm.oclc.org. This is an example of a proprietary software system that works well for images but becomes a problem for when on has a great variety of digital objects in various formats.

b. The American Philosophical Society has a digital library that is better suited to managing a wider variety of digital objects such as audio, video, and image files: http://www.amphilsoc.org/library/digcoll. This is an open source system, based on Islandora, which is likely the type of software CHF will invest in the future.

Finally, Ron informed the Heritage Council that the CHF plan going forward is first to hire a Curator of Digital Collections who will bring some in-house expertise on managing digital assets to CHF. It is expected that this person will develop an understanding of the needs and processes of the various collecting groups at CHF, establish the new workflows and resources required for new systems, and then implement a digital system in-house. After implementation (in early 2015), CHF will be on the road to begin the basic digitization processes required of a 21st-century collecting institution, to scale-up for major digitization projects, and to develop basic digital humanities tools.

Oral Histories

David Caruso, Director of the Center for Oral History at CHF, gave the Heritage Council a presentation about the state of the art in collecting and preserving oral histories. David outlined what an oral history is and is not, how CHF grows its collection of oral histories, current recording technologies, and the use of audio files and transcripts. He followed this with a thorough review of the legal and ethical issues involved with oral histories and ended by pointing out the current thinking among oral historians about archival storage systems. His slides are given as Attachment III to these minutes.

Meet a CHF staffer

After a short break, the Heritage Council was given an opportunity to meet a relatively new CHF employee, Beth Alfaro, Human Resources Manager. Beth presented some of her personal and professional background and outlined the responsibilities she has at CHF in this newly created position.

BCHOC Scholarly Presentation:

Finally, the Heritage Council heard from the current Herdegen Fellow at the Beckman Center for the History of Chemistry at CHF, Evan Hepler-Smith, who is currently a graduate student in the History of Science Program, Department of History, Princeton University. His presentation was *"The Structure of Compounds, the Function of Nomenclature, and the History of Chemical Information"* and his slides are given as Attachment IV to these minutes.

Other Business

Jeff Seeman gave a short motivational talk to the Heritage Council, praising the group for their participation and enthusiasm, urging them to consider the many excellent suggestions offered by the candidates for Chair, wishing the new Chair well, and thanking the Heritage Council members for seven years of shared activities. As there was no other business for the Heritage Council, the meeting concluded with a presentation of a certificate of appreciation to Jeff Seeman for his six years of service as Chair of the Heritage Council.

The Heritage Council meeting adjourned at 4:30pm.

Planned Dates for Future Heritage Council meetings are:

Wednesday, October 8, 2014
Wednesday, May 13, 2015

Heritage Council of the Chemical Heritage Foundation
Mission Statement

The Heritage Council represents the broad community drawn from chemistry, chemical engineering and molecular sciences interested in chemical heritage. The Council:

- Supports and counsels the Chemical Heritage Foundation on its mission and ways to accomplish it;
- Provides and enhances communication and collaboration between CHF and its Affiliated Organizations;
- Encourages and coordinates volunteer activities to augment CHF staff in carrying out the work of CHF; and
- Provides networking opportunities and discussion forums for key individuals in academe, government, and industry who are interested in the history, progress and future of the chemical and molecular sciences and related technologies.

Adopted: 3 April 2008