Joint presentation by Ken Boydston and Henry Wilhelm at the “Salted Paper Prints: Process and Purpose Symposium” at Harvard University on Friday, September 15, 2017 (10:05 to 10:25 am). All symposium sessions on September 14 and 15 will take place at the Harvard Faculty Club, 20 Quincy Street, Cambridge, Massachusetts 02138.


Authors (biographies of the two presenting co-authors appear on page 2 of this document):


Abstract:

Development of new multispectral imaging and image-change analysis systems allows high-resolution, full-area monitoring of salted paper prints with very large data sets consisting of ten thousand or more discrete colorimetric data points for the short-term and long-term monitoring of full-tonal-scale colorimetric changes (including in the UV and IR regions) that may take place in the full image area and in the paper support (recto and verso) over time. Irregularities in image deterioration and/or staining of the paper support brought about by localized variations in processing, washing, and drying, non-uniform contact with mounting, framing, and storage materials over time, and the effects of exposure to non-uniform lighting, environmental and “micro-climate” temperature and RH conditions can be assessed and compared in all areas of an image – including in very small image details.

In this study, salted paper prints made by William Henry Fox Talbot, Hill and Adamson, and others in the National Gallery of Canada collection were imaged with the MegaVision Multispectral Imaging and Analysis System to illustrate how multispectral imaging may be applied to long-term monitoring of salted paper prints and collections of other materials. The system builds upon and enhances the capabilities of the Dead Sea Scroll monitoring system in use at the Israel Antiquities Authority in Jerusalem. With the capture of monitoring data, high-resolution color images with a color accuracy only possible with many spectral bands are also simultaneously captured. The total capture time for sixteen spectral bands (one 365nm UV exposure, exposures for 10 spectral bands in the visible region, and 5 IR bands) is approximately one minute.

In addition, for this study, modern salted paper prints were made by Mike Robinson, an historian and contemporary maker of photographs using 19th century processes, utilizing a number of process variations, including prints “stabilized” with a sodium chloride solution but not fixed with sodium thiosulfate, and prints fixed and washed and then gold toned or left untoned.

These prints are currently being subjected to a range of accelerated aging techniques in the permanence testing laboratory at Wilhelm Imaging Research to establish baseline data for the intrinsic stability of salted paper prints. The tests include accelerated light exposure with 3000K high-CRI LED illumination to simulate museum, gallery, and archive display conditions; and tests conducted with filtered fluorescent illuminants. Tests with Hoya L-37 filtered xenon arc illumination to simulate indoor indirect daylight through window glass are also being prepared. Multi-temperature Arrhenius dark storage tests (50% RH at 57°C, 64°C, 71°C, and 78°C); ozone resistance tests; high-humidity resistance tests; and water-resistance tests are also being conducted.
The light-stability data obtained from the tests with the process variations discussed above will be compared with data generated with xenon arc and LED microfading test equipment. In addition, light-stability reciprocity relationships between the extremely high illumination level, short-term light exposure employed by microfading test units, and the much lower level, longer-term, temperature- and humidity-controlled conditions provided in the laboratory accelerated light fading tests at Wilhelm Imaging Research, will also be investigated.

Co-Authors:

Ken Boydston
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Biography:

Ken Boydston is the President and Chief Color Scientist of MegaVision, Inc., based in Santa Barbara, California. Boydston led the development of the high-resolution, MegaVision Multispectral Imaging and Analysis System which was introduced in 2007 and, with Boydston's collaboration, has been used to image, monitor with very large colorimetric data sets, and conduct forensic analysis of many cultural heritage treasures in the United States and throughout the world.

Henry Wilhelm
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Biography:

Henry Wilhelm is Founder and Director of Research at Wilhelm Imaging Research, Inc. in Grinnell, Iowa. With work beginning in 1971, Wilhelm and his colleagues have assembled the world’s largest reference collection of analog and digital color print materials and associated permanence data.


Wilhelm is currently serving as Project Leader for the development of the new ISO 18937-4 accelerated test methods standard for LED illumination sources.
SYMPOSIUM PROGRAM

Thursday, September 14th

9:00-9:10 Opening Remarks

Section A: Historical Use / Materials and Techniques
Moderator: Brenda Bernier, Weissman Preservation Center, Harvard Library, Harvard University

9:10-9:30 Henry and the Kitchen
Larry Schaaf, Bodleian Libraries, University of Oxford

9:30 – 9:50 Fundamentals of Salt Print Chemistry and History
Mark Osteman, George Eastman Museum

9:50-10:10 The Evolution of Salted Paper Print Processed During the 1850s: Published Recipes
John McElhone, Canadian Photography Institute of the National Gallery of Canada

10:10- 10:20 Question and answer session with all Section A speakers

10:20 – 10:50 BREAK

Section B: Harvard Initiative
Moderator: Brenda Bernier, Weissman Preservation Center, Harvard Library, Harvard University

10:50- 11:00 Introduction
Brenda Bernier, Weissman Preservation Center, Harvard Library, Harvard University

11:00-11:20 The Harrison D. Horblit Collection of Early Photography
Hope Mayo, Houghton Library, Harvard University

11:20-11:40 Overview of Salt Print Collections at Harvard
Melissa Banta, Weissman Preservation Center, Harvard Library, Harvard University

11:40-12:00 Non-destructive Analysis of Coatings on Early Photographs
Elena Bulat, Weissman Preservation Center, Harvard Library, Harvard University

12:00-12:20 Using Specular Reflection FTIR for Chemical Analysis of Cultural Heritage Objects
Arthur McClelland, Center for Nanoscale Systems, Harvard University

12:20-12:35 Question and answer session with all Section B speakers

12:35 – 2:30 LUNCH
Section C: Historical Use
Moderator: Erin Murphy, Weissman Preservation Center, Harvard Library, Harvard University

2:30 – 2:50  Commercial Salted Papers in the United States, 1860-1900
Katherine Mintie, University of California, Berkeley

2:50-3:10  “Divided ye may fall – united ye must stand”: Photography in the United States Patent Office
Mazie Harris, Sarah Freeman, J. Paul Getty Museum Department of Photographs

3:10-3:30  Early Photographic Map Reproductions
Adrienne Lundgren, Library of Congress

3:30-3:50  Linneaus Tripe and Lightly Albumenized Prints in the 1850s
Sarah Wagner, National Gallery of Art

3:50 – 4:00  Question and a answer session with all Section C speakers

4:00 – 4:20  BREAK

Section D: Historical Use / Preservation
Moderator: Erin Murphy, Weissman Preservation Center, Harvard Library, Harvard University

4:20-4:40  The Calotype Negative Process According to the Modus Operandi of Artist Luigi Sacchi (1805-1861): Technique and Aesthetics of an Eclectic Pioneer of Photography in Italy
Sandra Petrillo, SMPhoto Conservation Studio

4:40 – 5:00  The History and Chemistry of Platinum-Toned Salted Paper Prints
Joan Walker, Ronel Namde, National Gallery of Art

5:00-5:10  Question and a answer session with all Section D speakers

5:10-5:15  Closing remarks

5:30-7:30  RECEPTION, Houghton Library
Friday, September 15th

9:00-9:05 - Opening Remarks

Section E: Preservation, Use and Analysis
Moderator: Monique Fischer, Northeast Document Conservation Center

Dan Leers, Carnegie Museum of Art

9:25-9:45 The Exhibition of Salted Paper Prints from Italy: A Technical Case Study from the Metropolitan Museum of Art
Lisa Barro, Katie Sanderson, Silvia Centeno, Beth Saunders, Metropolitan Museum of Art

9:45-10:05 Maximum Information with Minimum Exposure: Characterization of Salted Paper Prints with Digital Imaging
Jiuan Jiuan Chen, Theresa Smith, Courtney Helion, Art Conservation Department at SUNY Buffalo State


10:25-10:35 Question and answer session with all Section E speakers

10:35-10:55 BREAK

Section F: Analysis
Moderator: Monique Fischer, Northeast Document Conservation Center

10:55 – 11:15 Minimally Invasive Sampling of Surface Coatings on Salted Prints for Protein Identification by Peptide Mass Fingerprinting
Dan Kirby, Richard Newman, Annette Manick, Museum of Fine Arts, Boston

11:15 – 11:35 Development and Testing of a Methodology for the Identification of Salt Print and Calotype Coatings utilizing Py-GC/MS
Art Kaplan, Michael Schilling, Getty Conservation Institute

11:35-11:55 A Closer Look: Coated Photographs in Eduard Isaac Asser's Family Albums (1845-1856)
Rosina Herrera Garrido, Rijksmuseum

11:55 – 12:05 Question and answer session with all Section F speakers

12:05-2:15 LUNCH
**Section G: Contemporary Use**
Moderator: *Penley Knipe, Harvard Art Museums/Straus Center for Conservation and Technical Studies*

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<th>Time</th>
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<td>2:15 – 2:35</td>
<td>Teaching with Photographs at the Harvard Art Museums</td>
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<td><em>David Odo, Laura Muir, Harvard Art Museums</em></td>
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<td>2:35-2:40</td>
<td>Question and answer session with David Odo and Laura Muir</td>
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<td>2:40 – 3:00</td>
<td>Pencil of Technology: Salt Prints from Natural Salt Water with Varying Salinity</td>
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<td><em>Courtney Johnson, University of North Carolina, Wilmington</em></td>
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<td>3:00 – 3:20</td>
<td>Mechanisms of Controlling Staining and Aesthetic Appearance of the Salted Paper Prints</td>
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<td><em>Ellie Young, Gold Street Studios</em></td>
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<td>3:20 – 3:40</td>
<td>Contemporary Approaches to Salted Paper</td>
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<td><em>Christina Anderson, Montana State University</em></td>
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<td>3:40-3:50</td>
<td>Question and answer session with Section G speakers</td>
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<td>3:50 – 4:00</td>
<td>Closing Remarks/Discussion/Action Points/Future Directions in Salt Print Humanities</td>
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Salted Paper Prints – Tours
September 13, 2017

Harvard University

10:00 - 11:00 AM
Fine Arts Library
*Note: Due to the distance between tour locations, you cannot participate in this tour and a tour that begins at 11:00 AM*

11:00 AM - 12:00 PM
Peabody Museum of Archaeology and Ethnology at Harvard University
(includes archives and conservation lab)

11:00 AM - 12:00 PM
Harvard Art Museum

2:00 - 3:00 PM
Weissman Preservation Center

Time TBD
Houghton Library, Department of Printing and Graphic Arts

Time TBD
Harvard University Archives

Museum of Fine Arts, Boston

*Note: Transportation between Cambridge and Boston will not be provided. Public transportation is available between Harvard University and the Museum (about 30-40 minutes).*

10:00 - 11:00 AM
Viewing of Museum’s Salt Print Collection

11:00 – 11:30 AM
Paper Conservation Lab

3:00 - 4:00 PM
Viewing of Museum’s Salt Print Collection

4:00 – 4:30 PM
Paper Conservation Lab
Harvard Library and FAIC will present a multi-disciplinary, two-day symposium that focuses on the preservation, characterization, use, and interpretation of the salt print process, now more than 175 years old. Scholarly presentations will include the technical history of salt prints, historical applications of the process for copying and disseminating information, and innovative material analysis. Emphasis will be placed on collaborative research which uses scientific and art historical evidence to shed light on the preservation of salt prints as well as the technical evolution and cultural impact of this seminal photographic process. Tours of salted paper print collections and lab spaces around the Harvard campus and the Museum of Fine Arts, Boston will be held for symposium participants on September 13.

A hands-on workshop hosted by the Northeast Document Conservation Center will allow participants to explore the chemistry and artistic nuance of creating salted paper prints.

**Salted Paper Prints Symposium: September 14-15**
Harvard University, Cambridge, MA
$189 AIC members, $249 Non-AIC members

**Tours: September 13**
Harvard University and Museum of Fine Arts, Boston
Free to symposium registrants

**Salted Paper Printing Workshop: September 13 and 16**
Northeast Document Conservation Center, Andover, MA
$69 (includes transportation between Harvard and NEDCC)

Visit the webpage for further details and registration information: [www.conservation-us.org/salted-paper-prints](http://www.conservation-us.org/salted-paper-prints)

Authors, Presentations, and Tours are Listed on the Following Pages
Salted Paper Prints: Process and Purpose
A Collaborative Workshop in Photograph Conservation

**Symposium:** September 14 - 15, 2017
Harvard University, Cambridge, MA
Organizer: Erin Murphy

**Workshop:** September 13 and 16, 2017
Northeast Document Conservation Center, Andover, MA
Instructor: Amanda Maloney
Organizer: Monique Fischer

**Description**

The salted paper print process, publicly announced by William Henry Fox Talbot in 1839, became the first negative-to-positive photographic technique. The ability to make photographic multiples revolutionized the way information was recorded and disseminated in the mid-19th century. These photographs represent records of the scholarly, social, and artistic endeavors of the time and play an important role in educational research across disciplines.

While many salt prints have survived as beautifully preserved images with rich tonal ranges, they can also be prone to fading and color shifts. New conservation research has assisted our understanding of these fragile items, and renewed interest in the historical and artistic aspects of salt prints has paralleled this preservation research.

The symposium presentations will span across the following topics:

- Subject-based research as it relates to salt prints (Talbot, early photography, various geographical contexts - especially Europe outside of the United Kingdom)
- Chemistry, Materials & Process
- Characterization/Variants
- Preservation
- Contemporary Uses/Issues (imaging, exhibition, teaching, reading room guidelines, current areas of academic research)

**Click here to view a full list of topics and authors**

**Registration**

**Salted Paper Prints Symposium**
September 14 - 15, 2017, 9:00am - 5:00pm
(a reception will take place in the evening of September 14)
Salted Paper Printing Workshop*
September 13, 2017, 1:30pm - 5:30pm
September 16, 2017, 9:00am - 1:00pm
Northeast Document Conservation Center, Andover, MA
(transportation to and from Cambridge will be provided)
$69 AIC members and Non-AIC members

Tours*
September 13, 2017, times vary (see below)
Free to symposium registrants
*You must be registered for the symposium to be eligible to attend the workshops and tours

Click here to go to the AIC/FAIC store to register for this program

Online registration requires you to create a log-in (or to use one that you already have for our site) with a name and email address before you may purchase an event registration. No information aside from the username and email address is required to create a profile, but you will need a billing address to complete registration.

To register online first log in, then go to the store and select "events”. Add the symposium to your cart. When you get to the page that allows you to select "continue shopping” you may do so to add workshop and/or tour registrations. To add additional registrations click "continue shopping," then select "sessions” from the drop down menu where you will find any workshops or tours available.

FAIC's workshop and conference registration policies can be found here.

About the Symposium

Harvard Library and FAIC will present a multi-disciplinary, two-day program that focuses on the preservation, characterization, use, and interpretation of the salt print process, now over 175 years old. Scholarly presentations will include the technical history of salt prints, historical applications of the process for copying and disseminating information, and innovative material analysis. Emphasis will be placed on collaborative research which uses scientific and art historical evidence to shed light on the preservation of salt prints as well as the technical evolution and cultural impact of this seminal photographic process.

The symposium is a collaboration between Weissman Preservation Center and Houghton Library. Erin Murphy, Brenda Bernier, Elena Bulat, Melissa Banta, Hope Mayo and Penley Knipe are working to organize this program.

About the Workshop

A hands-on workshop hosted by the Northeast Document Conservation Center in nearby Andover will allow participants to explore the chemistry and artistic nuance of creating salted paper prints. The half-day workshop will be offered two times. Registration fee includes transportation between Harvard and NEDCC. Monique Fischer is organizing the workshops, which will be lead by Amanda Maloney.

The salted paper print was an early negative/positive printing process developed by William Henry Fox Talbot in England in the 1830s. Many beautiful examples of this process were created in the 19th century and can be found in a variety of photograph collections. This workshop will allow the participants to create their own salted paper prints by guiding them through the steps of the process. A brief lecture will acquaint the participants with the basic chemistry and variations of the process and discuss preservation concerns.

Who should attend? This workshop is designed for those with limited training in chemical photography who have an interest in learning more about salted paper printing. Pre-program and student participants are welcome as is anyone would like to get hands on experience printing.

Tours

Click here for a list of tours associated with this program

Scholarship Funding

FAIC/Mellon Photograph Workshop Professional Development Scholarships
With funding from The Andrew W. Mellon Foundation, FAIC offers scholarships up to $1,000, plus waiver of registration fees, to help defray professional development costs for international attendees. Proposed projects are limited to expenses related to attending FAIC Collaborative Workshops in Photograph Conservation. Applications due February 15 and May 15.
FAIC/NEH Individual Professional Development Scholarships
With funding from the National Endowment for the Humanities (NEH), FAIC offers scholarships up to $1,000 to help defray professional development costs for individual members of AIC who are U.S. residents. Proposed projects are limited to expenses related to attending FAIC workshops supported by the NEH. Applications due February 15 and May 15.

Support

Without support, the registration fee for the symposium would be $370. FAIC relies on your contributions to support these and its many other programs.

Funding for this program comes from The Andrew W. Mellon Foundation fund for Collaborative Workshops in Photograph Conservation and a grant from the National Endowment for the Humanities. Additional funding comes from the Foundation of the American Institute for Conservation of Historic and Artist Works Endowment for Professional Development, which was created by a grant from The Andrew W. Mellon Foundation and is supported by donations from members of the American Institute for Conservation and its friends. Courses are made possible with the assistance of many AIC members, but no AIC membership dues were used to create or present this course. FAIC would like to thank the 2001 Photo Grads for their generous donation to this program.

Questions?
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