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at the address below.

Society for Imaging Science & Technology
7003 Kilworth Lane
Springfield, Virginia 22151

Phone: 703-642-9090
Fax: 703-642-9094

info@imaging.org

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Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
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TECHNOLOGIES IN DIGITAL PHOTO FULFILLMENT 2016

**Note that papers from the 7th International Symposium on Technologies in Digital Photo Fulfillment 2016 are available for free download on the IS&T digital library, and are not considered, nor cited, as part of the Printing for Fabrication Proceedings.*



In cooperation with the Royal Photographic Society.

Renold C9

Welcome Remarks and Company Introductions

Session Chair: Joseph E. LaBarca, Pixel Preservation International (USA)

14:30 – 15:00

Tools and Strategies of Print Preservation

Session Chair: Reiner Fageth, CEVVE Stiftung & Co. KGaA

15:10 – 17:30

15:10 **Printing to Preserve—How Are We Doing Today?**, Joseph E. LaBarca, Pixel Preservation International (USA)
 Much has changed in the digital imaging industry in the last five years. This includes advances in cameras and optics and especially the continued tremendous growth in the use of smartphones. With smartphone in hand more people than ever have a camera ready to shoot at a moment's notice. Yet printing for long term preservation has not followed in this growth. While the number of hard copy prints, including prints and photo books, has increased, the rate of increase has not kept pace with the growth in capture. This means there is a bigger opportunity than ever for photo fulfillment through the production of prints and photo books. There have been positive signs in the industry in terms of photo organization, software for easier layout and design of photo books, and apps to make prints and photo books from the smartphone. But the awareness by end consumers on the risks of technology change and how to access their digital images 10 to 20 years from now is still very low. There have been positive signs on the web addressing this topic but uptake by social media remains low. This paper will discuss the positive trends seen on the web, ongoing trends in hard copy output from the last several years, and ways to further energize the digital photo fulfillment industry on the potential for printing for long term preservation.

15:40 – 16:30 Coffee Break and **Interactive Paper Session II** Renold C15

16:30 **Kodak Professional Endura Premier Paper for the Premium Photo Book Market**, Patrick W. Webber, Kodak Alaris (USA)

There are a wide range of digital print technologies available today for use in photo books. This includes Inkjet, Electro Photographic, Dye Sublimation and Silver Halide. However, only one technology, silver halide paper, incorporates imaging technology and image quality that is the gold standard in the photographic marketplace. This allows providers to exceed consumer expectations for photo book image quality resulting in a delighted customer experience and the ability to offer a premium product in this growing, but crowded category. KODAK PROFESSIONAL ENDURA Premier Paper is a silver halide photographic paper which incorporates new technology specifically for digital printing and continues to advance the state of the art of silver halide technology. In addition to the positive customer experience that silver halide paper provides to the photo book market, the use of ENDURA Premier Paper provides the optimal balance of high image quality, long-term permanence, high productivity, and low cost. This paper will discuss silver halide technology for use in photo books, and specifically how KODAK PROFESSIONAL ENDURA Premier Paper, meets the needs of the premium photo book market. In addition, the paper will discuss how the optimal image longevity performance of KODAK PROFESSIONAL ENDURA Premier Paper provides a solution to the consumer needs for long-term preservation of digital image files using premium photo books, the photo album of the 21st century.

17:00 **Original Photopaper Developments and Applications to Further the Advancement and Growth of the Premium Photo Book Segment**, Anthony Pieters and Evert Groen, FUJIFILM Europe B.V. (the Netherlands)

Original Photopaper is now leading Premium photo book segment, next developments will not only bring the medium segment in reach for Original Photopaper photo books, but will attract also new players into Original Photopaper technology. Listening to customer needs, listening to central lab needs, continuously innovating and the success of honest cost – margin calculations leading to new Original Photopaper developments and its applications. Since first time FUJIFILM is developing papers specific for central lab high speed printing equipment. Next to that FUJIFILM organizes cooperation of best in class Original Photopaper equipment manufacturers who will bring our industry into next era where central lab production will be leading in costs, quality and speed of fulfilling customers needs. It's also the era where pure digital printing companies decide to enter the Original Photopaper production technologies, as we see several companies starting with it the last couple of months.

19:00 – 22:00 Conference Reception

Museum of Science and Industry—Liverpool Road, Manchester, UK

Printing for Fabrication 2016 (NIP32)

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Renold C9

Photo Book Construction and Preservation

Session Chair: Ina Hilker, Felix Schoeller

10:10 – 12:10

10:10 [Long-Term Digital Preservation of Photo Books](#), Mark B. Mizen, *All About Images (USA)*

Preservation of photo books extends beyond simply preserving the physical object. Preservation requires understanding the photo book production process, which begins with taking digital photos, includes digital file creation, and extends to manufacturing the book in its final form. Unfortunately, the intermediate steps are often lost, with manufacturers generally unwilling to supply intermediate files in some false belief that doing so threatens future profitability. Overall, this business practice is short-sighted and is in fact counterproductive when it comes to photo book preservation.

10:40 [Using Technology to Acquire Customers in the Personalised Photo Market](#), Dianne Moralee, *Taopix Limited (USA)*

Taopix will present a live demonstration of a personalised photo platform that includes image upload, automated image placement, creation tools, order and payment for photo products and post-order functions such as 'Send to a Friend'.

11:10 – 11:40 Coffee Break

11:40 [Customer Photo Books for the Future](#), Brigitte Peleman-Vantieghe, Luc Augustinus, and Bruno Herroelen, *Peleman Industries, Inc. (USA)*

Unibind leads the evolution of the PhotoBook with 2 new innovations. Herewith is the first innovation for the inside of the PhotoBook with the lay flat paper solution call UniPaper. This new product of Unibind brings the solution for the lay flat paper: The UniPaper.

The first photobooks were the evolution from the albums, where pictures were fixed with glue or with other attachments. These albums were made with heavy paper and the need for lay flat was not a point, seen the different pictures in the same paper. Previously there were no panorama cameras for panorama pictures. Recently cameras were developed with the very wide angle or with a movie application, both resulting in pictures with a double landscape view. Since the double landscape picture exists, and if the printer can print these double landscapes, then the industry of photobooks must develop also photobooks with these double landscape printed paper.

Unibind has developed this solution, the UniPaper, thanks to the special folding technique and thanks to the system of binding based on the steel channel. The main requirement for Customer Photo Books in the future must lay flat when open. Punching holes in the beautiful pictures is not acceptable now. Only binding with resin will be acceptable in the future. The lay Flat will be an absolute condition, but resin binding and Lay Flat are conflicting. Today there are only (2) possibilities to combine in a positive way for the resin to Lay Flat by specifically treating the paper for this purpose by either:

Made in the factory with the paper selected by the user-printer.

Made in the printer factory with the paper before or after the print.

UniPaper will economically be less costly.

Factors that Influence Permanence and Durability of Photo Books

Session Chair: Alan Hodgson, Alan Hodgson Consulting, Ltd.

12:30 – 15:00

12:30 [Safety of Freezing Inkjet Prints for Long Term Storage](#), Ivey Barker and Daniel Burge, *Image Permanence Institute, Rochester of Institute of Technology (USA)*

Through the history of inkjet printing, a wide variety of colorants, coatings, and supports have been used to create fine art and professional photographs collected by museums and other cultural institutions. These materials have

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shown, through anecdotal experience as well as scientific study, a high degree of variability with respect to decay under room condition storage. Theory, as well as experimentation, has indicated that progressively lower storage temperatures should result in progressively longer lifespans. However, there is concern that crossing the threshold into freezing conditions could have adverse effects on the image quality of prints or the physical integrity of coatings and supports as has been found with other fine art and photographic materials through history. The experiments in this project investigated whether freezing and thawing would significantly alter the physical integrity or visual appearance of inkjet prints. Printed targets and non-printed sheets were tested for a variety of common deterioration forms including ink bleed, paper yellowing, change in gloss, coating embrittlement, and increase in abrasion sensitivity. Non-frozen controls and samples that had been frozen at -12° Celsius for one week and then thawed were tested and compared for the above types of decay. The freezing and thawing was shown to have no adverse effects on the prints. Freezing conditions can therefore be used as a storage option to maximize life expectancy for these materials. Validation of the use of below freezing temperature storage conditions for these materials is a critical addition to the literature on the subject of inkjet print care.

13:00 – 14:00 Lunch Break

14:00 **Photo Book Permanence and Durability Standards and Their Impact on the Fulfillment Industry**,
Stuart T. Gordon, Kodak Alaris (USA)

Standardized testing and reporting of image permanence and durability performance using ISO standardized methods allows photo fulfillment companies to assess and promote product performance in a way that is easily comparable by both professional fulfillment laboratories and consumers. A previous paper reviewed standards being developed to test the performance of printed pages. This paper will focus on the development of a test method standard for photo book durability that will provide a common testing platform for photo book producers to help create high quality products in this important growth category.

14:30 **A Guide for the Assessment and Mitigation of Bleed, Gloss Change, and Mold in Inkjet Prints During High-Humidity Conditions**, *Jennifer Burger, University of Rochester, and Daniel Burge, Image Permanence Institute (USA)*

The purpose of this project was to define the absolute ceiling limits for time and relative humidity (RH) combinations at room temperature to prevent damage to inkjet printed materials in museums, libraries, and archives when they are inadvertently exposed to short-term high-humidity conditions (under 28 days). Unintentional elevated humidity exposure can occur during HVAC malfunctions, transport, following water emergencies, and in uncontrolled storage or exhibition areas. Previous research has shown that colorant bleed, gloss change, and mold germination are the three most common forms of inkjet deterioration during high-humidity conditions. In order to provide collections care professionals with the necessary information to mitigate all three deterioration types, time limits for each needed to be compiled into a single, concise guide. Data on ink bleed and mold germination limits were collected from previous research, while the gloss change data required further experimental investigation. Gloss change experiments were performed with dye on polymer-coated RC paper, as previous studies have shown this ink/paper combination to be particularly sensitive to gloss change during exposure to elevated humidity. During the tests, samples were exposed to a series of time and RH variations. The results showed that while prints can be sensitive to gloss change at elevated humidities, inkjet prints are even more sensitive to colorant bleed, which is therefore the limiting factor. A guide for RH deterioration mitigation was developed and can now be used to predict how prints have or will respond to elevated humidity exposure for times less than 28 days. While all inkjet print types should be safe at humidities at or below 65% for up to 28 days, relative humidity exposures above 80% should be avoided at all costs as the most sensitive print types will likely be damaged within 24 hours. The guide provides predictive times to damage for RH values between 65% and 80% that can be interpolated to determine risk at these intermediate conditions.

15:30 – 17:00 Optional Behind-the-Scenes Tours
