Archiving 2015

Access Management and Openness in Digital Archives and Repositories

Mikko Lampi and Johanna Räisä, Mikkeli University of Applied Sciences (Finland)

Abstract: This paper discusses the access management in digital archives and repositories. Access management consists of technical procedures, solutions and policies such as privileges management, access control, user management, privacy management and metadata. In addition, information ethics regarding sensitive materials needs to be taken into consideration. All of these aspects have an impact on access and management of the archival materials during their lifecycle. Access management becomes more important when both contents and information systems are online.

Another hot topic, or even an emerging megatrend, is openness. In this context, it often means open access to the contents. Perhaps they are published via open APIs which are built into open source digital archive systems; and the archival contents could be enriched with open data.

Both linked data and open data are examined from a pragmatic point of view. The concept of open data, linked data and open linked data are introduced. They are discussed as both technology and best practices. This paper then focuses on the context of digital archives and repositories. In addition, a compact overview on the challenges and possibilities is presented. The paper covers the data consumer and provider perspectives. It features a couple of examples for practical benefits.

Two projects carried out by the Mikkeli University of Applied Sciences are used to demonstrate the developments and the challenges: Open Source Archive and The Karelia Database.
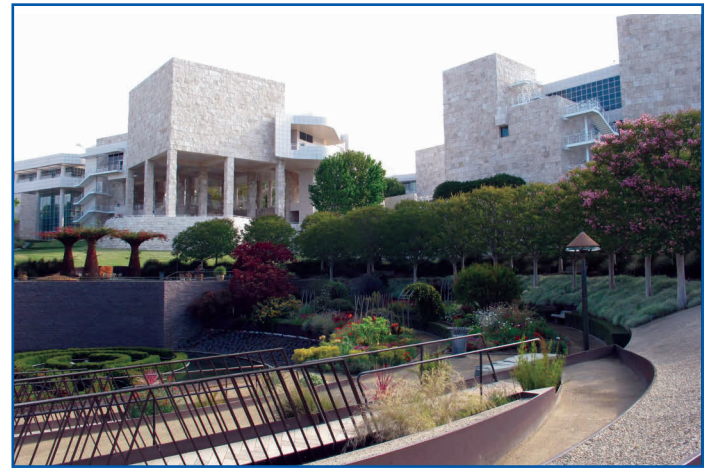
The lovely Getty Museum hosted the 2015 Archiving Conference.

Photo: Mogens Bech.

The Evolving Process to Add Preservation Support for New Formats at Harvard Library

Andrea Goethals, Franziska Frey, and David Ackerman, Harvard Library (USA)

Abstract: In 2000 Harvard Library began populating the Digital Repository Service (DRS), its digital preservation repository, with digitized text, images and audio. Over the years the Library continued to add preservation support to the DRS for new formats including born digital websites, PDF documents and email. Library collections however continued to grow and diversify to include a wide range of formats not supported by the DRS, including video and a variety of born-digital formats. In 2013 the Library began to bridge that preservation support gap by refining the process of how new formats are supported in the DRS. This paper describes the new process, which is a more consistent workflow and includes external expertise; as well as analysis tools that could be used by other institutions to broaden the range of digital formats that they are able to preserve.

INSIDE THIS ISSUE

ARCHIVING 2015 HIGHLIGHTS FROM LOS ANGELES

By General Chair David Walls, Government Printing Office

Archiving 2015 was hosted by the Getty Research Institute and the J. Paul Getty Museum in Los Angeles, California. As in past years, the conference began on Tuesday with an impressive offering of short courses. Participants took advantage of four tracks of courses on such topics as tools for digital imaging and curation and the assessment of digital repositories according to the TDR ISO 16363 standard.

The conference Technical Program began on Wednesday with a keynote address from Dr. Katherine Skinner, executive director of the Educopia Institute. Dr. Skinner's presentation, "From Act to Impact: Combining Innovation, Evaluation, and Scale to Produce System Level Change," was an inspiring beginning to the week's program. Presentation topics for Wednesday were Digital Forensics; Innovative Software, Projects, and Services;

ARCHIVING 2015

Attendees*:	127
Oral Papers:	33
Short Courses:	9
Exhibitors:	5
Dates:	May 19-22, 2015
Location:	Los Angeles, CA

*includes Short Course only and guests

Creating and Preserving Dynamic Media; and the first of two sessions on Digital Preservation. Conference exhibitors The Crowley Company, Image Science Associates, MegaVision, METIS Systems srl, and PIGL, also shared the stage on Wednesday providing brief presentations of their products and services. The day ended with a reception at the Luxe Sunset Boulevard Hotel, sponsored by Digital Transitions and Backstage Library Works.

Dr. Murtha Baca, head of the Digital Art History Program at the Getty Research Institute began Thursday's conference session with a keynote address on "The Role of Multilingual Thesauri in Enhancing Access to Descriptive Metadata for Images." Program topics for Thursday were Imaging Technology and the second half of papers on Digital Preservation.

Photo: Michael Bennett

During his keynote address, Paul Conway challenged the imaging community at large to actively engage in the education of the next generation of digital archivists.

The popular "Behind-the-Scenes Tours" closed out the conference program on Thursday. The Getty Research Institute and the J. Paul Getty Museum showcased their work and facilities while across town, Michael Pogorzelski, director of the Film Archive of the Academy of Motion
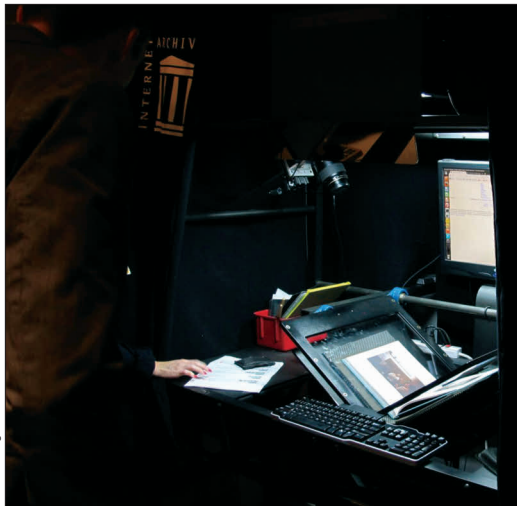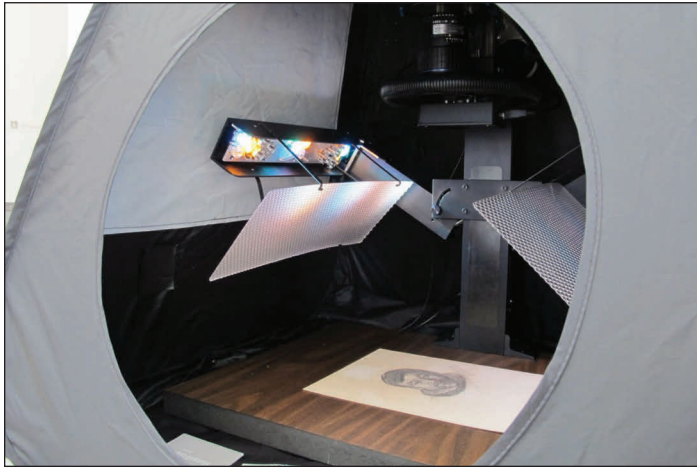

Photos: Mogens Bech

Above: Attendees who signed up for the Behind-the-Scenes tours at the Getty, visited the Digital Services department of the Getty Research Institute (GRI) where they saw large format, rapid capture, and mass digitization studios. They then toured the Imaging Services department, which is charged with visually documenting the objects in the Getty collection. The Museum maintains a very high-end studio, equipped with some unique tools to assist in the thorough capture of objects.

Right: Stanley Smith, head of collection information and access at The J. Paul Getty Museum, led one of the tours and was instrumental in bringing Archiving 2015 to the Getty.

Photo: Mogens Bech

During the conference, Jonas Palm (Swedish National Archives) was honored for his service as Archiving -General Co-chair in 2012.

Five exhibitors, including METIS Systems showcased technology in Los Angeles.

Unable to attend Archiving 2015, Mogens Koch (emeritus School of Conservation) was presented with a Service Award for for leading the 2012 Archiving Conference as General Co-chair and generous support of IS&T Board and ISO TC 42 events in Copenhagen by 2016 Archiving Program Chair Ulla Bøgvad Kejser (Royal Libary) on her return to Demark.

Picture Arts and Sciences, gave a tour of their facility and described how revenue from commercial sponsorship of the annual Oscars awards, supports the Academy's film preservation work.

The closing keynote of the conference on Friday was given by Dr. Paul Conway, associate professor at the University of Michigan School of Information. Dr. Conway spoke on "Engaging Education: On the Transition of Imaging, Standards to Lab-based Education."

For a change of pace, short course instructors were asked to give a brief presentation about their work during a Technical Program Session called "Sharing the Research and Teaching Behind the Short Course Topics." The Technical Program on Friday was "Managing Content and Digital Curation."

Many thanks to the hosts, authors, reviewers, conference and session chairs, sponsors, exhibitors, and cooperating societies who all worked to make Archiving 2015 a success. Please join us April 19-22 in Washington, DC for Archiving 2016. ▲

Evaluating the Creation and Preservation Challenges of Photogrammetry-based 3D Models

Michael J. Bennett, University of Connecticut Libraries (USA)

Abstract: Though the roots of photogrammetry can be traced back to photography's earliest days, only recent advances in both digital technology and software applications have put the possibilities of 3D modeling from 2D source images in the hands of the greater cultural heritage community. The possibilities of such 3D digital rendering are many. With these possibilities come unique digital preservation challenges. This study explores basic close-range photogrammetry as applied to sample archival objects. Additionally, the latest BagIt and ZIP-based bundling formats along with repository-based solutions are also surveyed as potential 3D data management and archiving aggregators for resulting 3D models.

PIVAJ: An Article-Centered Platform for Digitized Newspapers

Pierrick Tranouez, Stéphane Nicolas, Julien Lerouge, and Thierry Paquet, LITIS – University of Rouen (France)

Abstract: PIVAJ is a platform for archived digitized newspaper emphasizing articles: extracting them from digitized documents by automated page layout analysis, OCRing them, indexing their text transcription to allow users to search for content. Crowd-sourcing is used to improve the quality of the indexing, by correcting the transcription and by tagging articles with keywords. The platform has been used to give Web access to 550,000 articles generated from a digitized local newspaper. Current developments include further improvements to its OCR as well as graphical interfaces for the management of the platform.

Evaluation of Non-Reference Quality Assessment Algorithms to Curate Born-Digital Video Collections

Maria Esteva, Anne Bowen, Todd Richard Goodall, Alan Conrad Bovik, and Zach Brian Abel, University of Texas at Austin (USA)

Abstract: As the production, the variety, and the consumption of born-digital video grows, so does the demand for acquiring, curating and preserving large-scale digital video collections. A multidisciplinary team of curators, computer scientists and video engineers we explore the use of Non-Reference Image and Video Quality Algorithms (I/VQA), specifically of BRISQUE in this paper, to automatically derive ranges of video quality. An important characteristic of these algorithms is that they are modeled to human perception. We run the algorithms in a High Performance Computing (HPC) environment to obtain results for many videos at the same time, accelerating time to results and precision in computing per-frame and per-video quality assessment scores. Results, which were evaluated quantitatively and qualitatively, suggest that BRISQUE identifies

imaging.org
Society for Imaging Science and Technology

IS&T President's Annual Report — July 1, 2014 to June 30, 2015

An IS&T President writes two Annual Reports and as this is my second, it signals the end of my term of office. It is now my honour to pass the title over to Geoff Woolfe, previously Executive Vice President. It may be considered a testament to our Society that we have two consecutive Presidents from diverse geographic locations; I am from the United Kingdom and Geoff from Australia.

And this brings me to the theme for this report. Last year I picked on collaboration, a key part of what IS&T delivers. This led me to spend most of my first report on the IS&T conference offering, where this is most apparent in both the papers pub-

lished and interactions in the coffee, poster and exhibition areas. This time I want to place emphasis on the participation of our people: the membership and the community we serve.

My first point is that we are a truly international society. We should take pride in that as it is a key strength. Geoff and I come from different continents, united in a (nearly) common language but also in a wish to see the Society prosper. The other members of the Board of Directors are drawn from a variety of nations, reflecting the global nature of the community we serve. Geographic location is certainly no barrier to participation in our Society.

I write this report in a week that

Publications Annual Report
July 1, 2014 to June 30, 2015

Journal of Imaging Science and Technology (JIST)
by Chunghui Kuo, editor

2014 was the year of transformation for the *Journal of Imaging Science and Technology*. First of all, the transition to the web-based eJournalPress system for manuscript submission and editorial process is finally completed. All manuscripts in various stages of the peer review process are now managed by this online journal production tracking system. This new web-based system provides multiple enhancements over the previous submission system. For example, authors can now easily track the status of their submission in the peer review process to know their standings, and editors can track the review progress of each submission to reach an editorial decision within a reasonable time frame. As the journal continues to attract contributors from existing and new research fields in imaging technology, the implementation of this new tracking system will considerably facilitate the future journal manuscript review process.

JIST can only succeed as a premier scientific idea exchange platform at the forefront of imaging science research when researchers in this field choose it as their publication destination. This is especially important for active members attending various international conferences in the IS&T society. The rapid technological development in the current age gives rises to a wide variety of online publication outlets. As a result, it is essential for JIST to satisfy the growing demand for timely publishing of the latest scientific discoveries, while imposing a rig-

orous peer review standard to uphold the quality of our journal. In response, JIST began to publish focused section issues from 2014 for several IS&T conferences, such as Color and Imaging, Digital Fabrication, and Electronic Imaging conferences. These focused issues invite authors to simultaneously submit their research at the intended IS&T technical conferences and JIST by loosening the page constraint of a normal conference paper in the submission process. Each submitted manuscript needs to complete the same rigorous peer review process as a regular article. More importantly, the initial demand for a Focused Section submission in terms of its scientific and technical merit is even more stringent because of the shorten time frame to reach an editorial decision. From July 2014, JIST has published Focused Section issues for CIC22, CIC23 and NIP31 conferences, and I would like to give special recognition to the contribution and dedication of all associate editors and guest editors who made these Focused Section issues possible. This special avenue to publish the latest scientific findings in the field of imaging technologies also begins to attract broader attention from the interested authors attending the upcoming Electronic Imaging 2016 conference.

From July 2014 to June 2015, JIST received a total of 85 manuscripts, where 20 articles were accepted for publication, 15 articles were declined, and 10 articles were withdrawn. The other 40 manuscripts are in the stages of revision or review-pending. The topics in the digital printing technologies and color imaging science are well represented among the accepted

articles as usual. In the meantime, the emerging technologies in functional printing, three-dimensional imaging, and data visualization have begun to gain more attention in the digital imaging research community, which is reflected in the pipelines of articles we received this year. In order to better serve this broad range of research topics, JIST is welcoming 10 new associate editors to strengthen this emerging subject matter expertise, including Professor Hang-Bong Kang, Catholic University of Korea (Korea); Dr. David Kao, NASA Ames Research Center (USA); Prof. Kye-Si Kwon, Soonchuhyang University (Korea); Prof. Bart Lamiroy, University de Lorraine (France); Prof. Branka Lozo, University of Zagreb (Croatia); Dr. Henry Y.T. Ngan, Hong Kong Baptist University (Hong Kong, China); Dr. Maria V. Ortiz Segovia, Océ Print Logic Technologies; Prof. Thomas Wischgoll, Wright State University (USA); Prof. Zeev Zalevsky, Bar-Ilan University (Israel); and Prof. Song Zhang, Mississippi State University (USA).

With the joint endeavors of our editorial board, the editors, reviewers, and our contributors, JIST will strive for promoting the awareness of the latest scientific and technological developments in imaging technology and serving as a leading channel for research collaboration across the boundaries of various disciplines involved in modern imaging.

Journal of Electronic Imaging (JEI)
by Gaurav Sharma, editor

JEI received 655 submissions, including 606 contributed papers, 25 special section papers, and 24 letters in 2014 and published 168 papers, including 147 contributed papers, 19 special section papers, and 2 letters in a total of 1,979 pages. This represents a continuing trend of significant increase in submissions over past years (in 2010, 2011, 2012, and 2013 JEI had 197, 278, and 434, and 566 submissions, respectively). The number of submissions has grown 332% over this five year window.

The 2014 year end issue of JEI included a section on Image/Video Quality and System Performance (Mohamed-Chaker Larabi, Sophie Triantaphillidou, and Andrew B. Watson, guest editors). In 2015, JEI has two special sections planned. One on Ultrawide Context- and Content-Aware Imaging (François Brémond, Ljiljana Platiša, and Sebastiano Battiato, guest editors) and the second on Quality Control by Artificial Vision: Nonconventional Imaging Systems (Fabrice Mériaudeau, Amir Malik Saeed, guest editors). Additionally, two special sections have also been scheduled for 2016. The first of these is on Advances on Distributed Smart Cameras (Jorge Fernández-Berni, François Berry, and Christian Micheloni, guest editors) and the second is on Intelligent Surveillance for Transport Systems (Louahdi Khoudour, Yassine Ruichek, and Sergio Velastin, guest editors).

The following new associate editors have joined the editorial board: Laura E. Boucheron (New Mexico State University, USA), Amit K. Roy Chowdhury (University of California, Irvine, USA), Raymond (Yun) Fu (Northeastern University, USA), Chaker Larabi (Université de Poitiers, France), Alessandro Rizzi (Università degli Studi di Milano, Italy), Husrev Taha Sencar (TOBB University of Economics and Technology, Turkey), and Sergey Tulyakov (University of Buffalo, USA). We have also had several retirements: Jaakko Astola (Tampere University of Technology, Finland), Kobus Barnard (University of Arizona, USA), Madhukar Budagavi (Samsung, USA), Jovan Brankov (Illinois Institute of Technology, USA), Marvin Doyley (University of Rochester, USA), Jerome Idier (IRCCyN, France), Raghuveer Rao (Army Research Laboratory, USA), and Ping Wah Wong (IDZap, USA) have retired from the JEI Editorial Board. We thank them for their dedicated service.

This will be my last year as Editor for JEI. At the end of 2015, I will be stepping down as Editor of JEI after having completed five years as the Editor. During my tenure as Editor, JEI has seen very significant growth. The number of submissions we receive has grown more than three-fold. The number of published papers has also grown and we have gone from a quarterly publication schedule to an issue every two months. At the same time, we have also become much more selective (with a current acceptance rate around 28%). Times to first decision and, for accepted papers, the time from submission to final publication have both also gone down significantly. We have also had a steady stream of special sections and survey/tutorial articles. None of this would be possible without the help I have received from the Editorial Board and the staff of IS&T and SPIE. I thoroughly appreciate the help and everything they do for the journal and take pride in what we have collectively accomplished—Thank you! I will be working over the last quarter of 2015 to transition the journal smoothly to the new Editor (to be identified).

Information relating to the journal, including subscription options, tables of contents of current and past issues, prospective author guidelines, calls for papers, and the editorial schedule for upcoming special sections can be found at the journal website: http://jelectronicimaging.org.

Conference Data: July 2014 – June 2015

Meeting: NIP30/Digital Fabrication 2014
Dates: September 7-11, 2014 / **Location:** Philadelphia, PA
General Chair: Branka Lozo
Attendance: 361 (313 technical attendees)
Oral Papers: 98   **Interactive Papers:** 15
Short Courses: 15   **Exhibitors:** 26

Meeting: Color and Imaging Conference (CIC22) / IADP2014
Dates: November 3-7, 2014 / **Location:** Boston, MA
General Chair: Jennifer Gille
Attendance: 221 (193 technical attendees)
Oral Papers: 60   **Interactive Papers:** 31
Short Courses: 15   **Exhibitors:** 6

Meeting: TDPF 2015 (6th Symposium on Technologies in Digital Photo Fulfillment) held as part of DIMA
Dates: January 4-5, 2015 / **Location:** Las Vega, NV
General Chair: Joe LaBarca
Attendance: varied by session   **Oral Papers:** 9

Meeting: Electronic Imaging Symposium 2015
Dates: February 8-12, 2015 / **Location:** San Francisco, CA
General Chairs: Shelia Hemami and Choon-Woo Kim
Attendance: 959 (913 technical attendees)
Oral Papers: 347   **Interactive Papers:** 91
Short Courses: 15   **Exhibitors:** 8

Meeting: Archiving 2015
Dates: May 19-22, 2015 / **Location:** Los Angeles, CA
General Chair: David Walls
Attendance: 127 (103 technical attendees)
Oral Papers: 33   **Short Courses:** 9   **Exhibitors:** 5

for me is a great illustration of the pervasive nature of imaging and the width of that community. I attended conferences on microscopy and illumination and met with a wide variety of participants from even wider backgrounds from light sources and optics through to computation. I talked with people from image capture applications as diverse as image sensors, holography and printing. The wavelength range spanned mid range IR to soft x-rays but they had this common objective—to generate images that were fit for a defined purpose. As imaging becomes embedded in more places the offerings of the Society should have even more relevance. Participation in our Society supports in an ever widening applications space.

As the applications space widens so do the disciplines involved. Through participation in the Society I have benefited from interactions with the museum/national archive, colour and electronic imaging communities. My core disciplines are colour chemistry, photography and printing and my knowledge has been enhanced by interaction with my peers in these areas. These interactions allow us to seek out new challenges and fresh opportunities with the potential to build value to the whole community, in my case in Printed Electronics. The Society is all the stronger for participation from both the academic and industrial communities across all imaging disciplines.

So as I pass on the office of President my final message is simple. Wherever we find imaging there are opportunities to participate in the Society. Seek them out for we will all be richer

IS&T BOARD OF DIRECTORS

July 1, 2014 - June 30, 2015

President: Alan Hodgson (3M UK PLC)
Immediate Past President: Robert Buckley (National Archives of the UAE)
Executive VP: Geoff Woolfe (Canon Information Systems Research Australia Pty. Ltd.)
Conference VP: Sabine Süsstrunk (Ecole Polytechnique Fédérale de Lausanne)
Secretary: Steve Korol (Evolutionary Technology)
Treasurer: Scott Silence (Xerox Corp.)
Publications VP: Susan Farnand, Rochester Institute of Technology)
Vice Presidents: Reinhard Baumann (Chemnitz University of Technology); Sergio Goma (Qualcomm Technologies, Inc.); Steven Simske (Hewlett-Packard Labs); James Stasiak (Hewlett-Packard Company); Wei Sun (Drexel University); Werner Zapka (XaarJet AB)
Chapter Directors
   Europe: Wolfgang Schmidt (Schoeller Technocell GmbH & Co KG) and Dietmar Wueller (Image Engineering GmbH & Co. KG)
   Japan: Junichi Hanna (Tokyo Institute of Technology)
   Korea: Choon-Woo Kim (Inha University)
   Rochester: Michel Molaire (Molaire Consulting)
IS&T Executive Director: Suzanne E. Grinnan

July 1, 2015 - June 30, 2016

President: Geoff Woolfe (Canon Information Systems Research Australia Pty. Ltd.)
Immediate Past President: Alan Hodgson (Alan Hodgson Consulting)
Executive VP: Steven Simske (Hewlett-Packard Labs)
Conference VP: Francisco Hideki Imai (Canon USA, Inc.)
Secretary: Steve Korol (Evolutionary Technology)
Treasurer: Scott Silence (Xerox Corp.)
Publications VP: Susan Farnand, Rochester Institute of Technology)
Vice Presidents: Sergio Goma (Qualcomm Technologies, Inc.); Teruaki Mitsuya (Ricoh Company, Ltd.); Majid Rabbani (Eastman Kodak Company); James Stasiak (Hewlett-Packard Company); Radka Tezaur (Nikon Research Corporation of America); Werner Zapka (XaarJet AB)
Chapter Directors
   Japan: Junichi Hanna (Tokyo Institute of Technology)
   Korea: Choon-Woo Kim (Inha University)
   Rochester: Michel Molaire (Molaire Consulting)
IS&T Executive Director: Suzanne E. Grinnan

for this. As I transition from President I also part company with my employer, going back to my consultancy business. However, I aim to continue to participate and contribute to the mission of the Society. Let's work together as both Society members and a community, positioning us at the centre of Imaging Science & Technology.

Respectfully submitted,

A. Hodgson

Alan Hodgson, president

IS&T REPORTER

Executive Editor: Peter Burns
Managing Editor: Donna Smith
Technical Editor: Ann McCarthy

The IS&T Reporter is published quarterly by the Society for Imaging Science and Technology (IS&T). Articles and letters to the editor do not necessarily constitute endorsement or reflect the opinions of the editors or IS&T. Advertising and copy are subject to acceptance by the editor.

IS&T is an international organization dedicated to keeping constituents aware of the latest scientific and technological developments in the broad field of imaging through conferences, journals, and other activities.

IS&T focuses on all aspects of imaging, with particular emphasis on digital printing, electronic imaging, image perception, photo fulfillment, color imaging, image preservation, digital fabrication, and the physics and chemistry of imaging processes. For more information, visit imaging.org. IS&T publishes the *Journal of Imaging Science & Technology* and *Journal of Electronic Imaging* (with SPIE).

Please send inquiries to: *info@imaging.org*
©2015 Society for Imaging Science and Technology.
All rights reserved.
ISSN 2327-4395 print
ISSN 2327-4409 online

IS&T International Symposium on
Electronic Imaging 2016
SCIENCE AND TECHNOLOGY

14–18 February • San Francisco, CA, USA

Explore the Future in Electronic Imaging

access the entire imaging workflow —from capture to processing to output to observer— in one event

electronicimaging.org

IS&T 2014 Financial Statement

STATEMENT OF INCOME
Fiscal Years Ending December 31, 2014 and December 31, 2013

	2014	2013
INCOME		
Conferences	$805,676	$801,433
Publications	317,325	406,944
Membership	92,330	90,335
Standards	137,796	137,796
Other	5,366	17,219
TOTAL INCOME	$1,355,997	$1,453,726
EXPENSE		
Conference	$1,006,300	$943,573
Publications	361,058	482,530
Membership	89,358	96,966
Standards	91,879	131,252
Other	21,975	47,243
TOTAL EXPENSES	$1,570,568	$1,701,565
Net Operations	(214,571)	(247,839)
Investment Income	148,249	66,764
Realized Gain (Loss)	(128,344)	64,689
NET INCOME (Loss)	**$(194,666)**	**$(116,385)**

BALANCE SHEET
Fiscal Years Ending December 31, 2014 and December 31, 2013

	2014	2013
ASSETS		
Cash and Cash Equivalents	$ 275,390	$ 591,487
Accounts Receivable, net	1,335	27,379
Prepaid Expenses	65,399	78,128
Inventory	83,468	90,181
Restricted Cash	32,174	32,232
Investments	1,301,570	1,310,988
Property and Equipment, net	33,025	36,440
TOTAL ASSETS	$1,792,361	$2,166,835
LIABILITIES		
Accounts Payable and Accrued Expenses	$101,309	$133,535
Deferred Revenue	224,349	342,104
Funds Held for Others	32,174	62,002
TOTAL LIABILITIES	357,832	537,641
NET ASSETS		
Unrestricted	$1,339,268	$1,534,637
Temporarily restricted (Davis Fund)	46,498	45,999
Permanently restricted (Davis Fund)	48,763	48,558
TOTAL NET ASSETS	$1,434,529	$1,629,194
TOTAL LIABILITIES AND NET ASSETS	$1,792,361	$2,166,835

Balance Sheet Notes
1. Income (Loss) from operations in 2014 was $(194,666).
2. IS&T's 2014 Annual Report is available to members upon request.

Statement of Income Notes
General Administration and Labor allocations in 2014 were as follows: conferences 70%; publications 21%; membership 7%; standards 2%. These percentages were applied to administration and labor expenses to determine a net gain (loss) for conferences, publications, membership, and standards.

IS&T's investements are administered through Morgan Stanley in Washington, DC. The investments are currently invested in Money Market Funds, Mutual Funds, CD's and in the TRAK stock portfolio. As of December 31, 2014, these investments had a market value of $1,381,496 (in 2013 valued at $1,488,362).

The Standards Roundup: Imaging and Graphic Arts

by Ann L. McCarthy, IS&T Standards Coordinator

ISO/TC 42 Photography
24th ISO/TC 42 Plenary Meeting

In early June, the Japan National Committee graciously hosted the 24th ISO/TC 42 Plenary meeting in Sapporo, Hokkaido, Japan. In addition to the plenary sessions, working groups 3, 5, and 18, and joint working groups 8 and 26 also held face-to-face meetings with the plenary. The meeting was organized by the Photo Sensitized Materials Manufacturer's Association. Seven P-Members, Australia, Belgium, Denmark, Germany, Japan, Netherlands, and the United States, were present. The new ISO TPM was announced to be Mr. Stefan Marinkovic. Mr. Toru Nagata (Japan), ISO/TC 42 Chair, received appointment as the ISO/TC 42 representative to ISO/TAG 14, "Image Technology."

In general, ISO/TC 42 working group leadership and operations continues unchanged. In JWG 26, *"Imaging system capability qualification for archival recording and approval,"* Mr. Scott Geffert (USA) and Ms. Ulla Bøgvad Kejser (Denmark) were appointed Convenor and Secretary, respectively. WG 17, *"Revision of ISO 3665,"* and WG 21, *"Density measurements (Revision of ISO 5 series),"* were disbanded with no active projects. The title of WG 3 was changed from *"Sensitometry, image measurement and viewing"* to *"Image measurement, viewing and sensitometry."* The title of WG 8 was changed from *"Photographic film and paper products — Dimensions"* to *"Imaging materials — Dimensions."*

ISO/TC 42 resolved to proceed with several preliminary work items for WG 3, including *"Test targets for image quality measurements on small size photographic prints,"* *"Characterization of physical aspects and print quality of photo books,"* and *"Lenticular prints for changing images — Measurements of image quality."*

Further extending the scope of its image permanence work, ISO/TC 42 resolved to request the ISO/TC 42 Secretariat to involve ISO/TC 130 and ISO/IEC JTC 1/SC 28 in starting an NP for a multi-part standards project: *"Digital color prints — Permanence and durability performance in commercial applications."* This project will cover test methods for indoor display, test methods for outdoor display, and test methods for durability. Following acceptance of this new work, ISO/TC 42 also resolved to form JWG 27, *"Image permanence & durability test methods and specifications for digital prints in commercial applications"* under the leadership of TC 42, with Dr. Jürgen Jung to serve as the convenor. JWG 27 will develop test methods and specifications for measurement of image permanence and durability performance of digital color prints in commercial applications—aligned with image quality evaluation metrics currently under development in JWG14 (which is a JWG of ISO/TC 130/WG 3 and ISO/IEC JTC 1/SC 28/WG4). JWG 27, will be synergistic with the recently formed JWG 14, *"Print quality measurement methods,"* hosted by ISO/TC 130 and also joint with TC 42 and ISO/IEC JTC 1/SC 28.

Standards in Development

New project proposals have been initiated for work in the following areas: ISO/NP 20954-1, *Digital cameras — Measurement method for image stabilization performance — Part 1: Optical systems,* ISO/NP 20954-2, *Digital cameras — Measurement and description method for image stabilization performance — Part 2: Non-optical systems,* and ISO/NP TR 17321-3, *Graphic technology and photography — Colour characterization of digital still cameras (DSCs) — Part 3: User controls and readouts for scene referred imaging applications.*

ISO/NP 20954-1 applies as a measurement method for image stabilization performance of the optical systems of consumer-use digital cameras. The purpose of this standards project will be to promote a unified assessment and reporting method based on the CIPA standard, CIPA DC-011-2015, *Measurement and Description Method for Image Stabilization Performance of Digital Cameras (Optical System),* which has been adopted as a worldwide practice in the area of image stabilization performance measurement since the first edition was published in 2012.

ISO/NP TR 17321-3 intends to describe user controls and readouts that would allow typical users to achieve improved results in terms of color (tonal) accuracy and exposure control for scene referred imaging. This standard addresses the need for standardization of the critical user interface elements controlling DSC raw capture and processing. Scene referred imaging may be considered non-intuitive for amateur photographers. Inherent in scene referred capture is the notion that what you see on the camera back or computer display is not what you want. Scene referred capture is intentionally not limited to the display capability of any particular display mechanism. Rather, scene referred capture and image storage, pushing the capabilities of the capture sensor and optics, is recommended in situations where the photographer would like to ensure that future displays of the imagery are not limited to the display technology at hand. The information in this technical report will provide guidance to camera and raw processing software manufacturers to determine, communicate, and use raw capture exposure value readouts so that DSC scene analysis transforms as defined in ISO 17321 1:2012 (Ed. 2), *Graphic technology and photography — Colour characterisation of digital still cameras (DSCs) — Part 1: Stimuli, metrology and test procedures,* and ISO/TR 17321 2:2012, *Graphic technology and photography — Colour characterization of digital still cameras (DSCs) — Part 2: Considerations for determining scene analysis transforms,* can be effectively applied.

Industry Connection

Photo Marketing Association International (PMAI) is considering an initiative to provide secure imaging services. They would like to provide consumers with an easy way to get their photos out of their smart phones, and into retails kiosks and on-line storage systems. ISO 15740, *Photography — Electronic still picture imaging — Picture transfer protocol (PTP) for digital still photography devices,* may play a part in the solution that they will promote. This initiative was also discussed at the PMAI "InnovationNow" business and technology summit in San Francisco on Sept 27-28, 2015. Further information on the summit is available at www.pmai.org/overview/.

ISO/TC 46/SC 10 Requirements for Document Storage and Conditions for Preservation
Overview of Work

ISO/TC 46/SC 10 standardization work covers requirements for storage and use of documents in libraries, archives, and documentation centers, as well as practices related to maintenance and improvement of the conditions of preservation. The purview of this committee specifically excludes photography and other media within the scope of ISO/TC 42 and micrographics and other optical memories within the scope of ISO/TC 171. Taking the perspective of archivists doing the work in libraries and archives around the world, the standards developed within SC 10, and within TC 42 and its joint working groups, are of interest.

The active working groups within ISO/TC 46/SC 10 are WG 1, *"Document storage requirements,"* with publication underway for ISO 11799, *Information and documentation — Document storage requirements for archive and library materials,* WG 2, *"Evaluation of paper deacidification processes,"* with publication underway for ISO/TS 18344, *Information and documentation — Evaluation of paper deacidification processes,* and WG 3, *"Holdings Management,"* with technical reports in development on the topics of holdings management, and management of environmental conditions for cultural collections.

SC 10 has confirmed ISO 16245:2009 (Ed. 1), *Information and documentation — Boxes, file covers and other enclosures, made from cellulosic materials, for storage of paper and parchment documents,* this year.

The following published standards in SC 10 are undergoing systematic review in 2015: ISO 9706:1994 (Ed. 1), *Information and documentation — Paper for documents — Requirements for permanence,* ISO 11108:1996 (Ed. 1), *Information and documentation — Archival paper — Requirements for permanence and durability,* and ISO 11798:1999 (Ed. 1), *Information and documentation — Permanence and durability of writing, printing and copying on paper — Requirements and test methods.* Information on these and other works of this committee are available from the ISO/TC 46/SC 10 Secretariat, Hans-Jörg Wiesner, DIN, German Institute for Standardization, hans-joerg.wiesner@din.de.

ISO/TC 130 Graphic Technology
Upcoming Publications

Standards under publication or recently published from TC 130 include:

- ISO/PAS 15339-1, *Graphic technology — Printing from digital data across multiple technologies — Part 1: Principles*
- ISO/PAS 15339-2, *Graphic technology — Printing from digital data across multiple technologies — Part 2: Characterized reference printing conditions, CRPC1-CRPC7*
- ISO 14861, *Graphic technology — Requirements for colour soft proofing systems*

ISO 14861 addresses the increasing use of color proofing systems using electronic displays (sometimes called soft proofing) in the printing and publishing industry. Prior to the publication of this standard, no criteria had been established for use in judging the various vendor offerings in this area. The intent of this standard is to facilitate the integration of soft proofing into the mainstream of the printing and publishing industry.

Standards in Development and New Work Discussions

Terminology has long been an important area of standardization. Before methods and measurements can be agreed, common understanding of the terms specific to the discipline must be developed and agreed upon. This process is an important unifying effort in bridging the various language backgrounds of technologists around the world. ISO/TC 130/WG 1 is working on updating standardized terms for graphic technology. Such terminology standardization faces new challenges and advantages with the technology available today. ISO is in the process of converting all standards into XML and making them available on the Online Browsing Platform. In addition, other overarching work is underway to harmonize terms across a broader set of standards.

ISO/TC 130/WG 2 has preliminary work under review in a two part proposal, ISO/PWI 201616 1, *Graphic technology — File format for quality control software and metadata — Part 1: Print requirements exchange (PRX),* and ISO/PWI 201616 1, *Graphic technology — File format for quality control software and metadata — Part 2: Print quality exchange (PQX).* PQX focuses on communicating print quality, addressing the challenge that brand owners want to track the print quality of their suppliers, which can be difficult and expensive. In many cases, the trade shop acts as intermediary between the brand owner and the printer. PQX (Print Quality Exchange) is a standard XML message that can be sent from printers to 3rd party stakeholders and owners who are involved in print quality evaluation. Standardizing this type of communication will potentially harmonize across the twelve proprietary formats in use in the industry today. The Idealliance group has been meeting weekly to develop this work. To participate or provide comments, contact Dianne Kennedy, DKennedy@idealliance.org.

ISO/TC 130/WG 2, in conjunction with CIP4, is considering development of an ISO standard in the area of graphic technology

workflow control, standardizing the CIP4 document metadata Interoperability Conformance Specifications (ICS). At the May 2015 meeting, members of WG 2 welcomed a liaison with CIP4 and agreed to the addition of a task force or joint working group for this effort, pending the formal response from ISO. The intent is to ensure that this work will align with similar work being done in the Ghent PDF WG.

In ISO/TC 130/WG 3, the situation that measurement instrument readings may not match readings from process control ("inline" or "near-line") instruments is being considered. This is a general problem and the sources of variation have been studied. A standard certification method for spectrophotometers will not resolve many of the sources of error, which are not under the influence of the instrument manufacturers. As part of the investigation, several questions are to be considered. How much do well-maintained and correctly used devices differ among each other? How much does each well-maintained and correctly used device vary over time? Instrument manufacture details (geometry, sample preparation, etc.) should be separated as a source of variation. If a device is not well-maintained and correctly used, how can these variations be extracted from the addressable situations?

ISO/ TC 130/JWG 14, joint with TC 42 and ISO/IEC JTC 1/SC 28/WG4, is investigating a range of topics, including: chromatic noise in print samples, uniformity samples for testing using the draft ISO 19751 image quality ruler for macro-uniformity, the impact of viewing distance on the evaluation results in visual resolution assessments, and test methods to qualify scanners for use in L score testing. L score testing refers to the Fogra L-Score, a scanner-based method applicable to address the objective evaluation of perceived resolution of printed matter. In the preparation of the NP for ISO TS 18621, *Part 11: Method for computing and analyzing colour gamut,* the analytic description of a single gamut is based on work in CIE TC 8 13. The analysis of gamut intersections is based on work being done in the ICC.

International Color Consortium (ICC)
iccMAX Webinars

iccMAX is next generation ICC color management for next generation display technology, designed to handle requirements of complex cross-media applications, goniophotometric materials, and color archiving applications. iccMAX is an expansion of the original ICC profile format, removing, for example, the historical constraints of the D50 light source reference and the limitation to colorimetric rather than spectral data. iccMAX was first promoted at ICC DevCon 2014 and that introduction is being followed by a series of webinars. The webinars include presentations from Max Derhak (Onyx Graphics Corp.), William Li (Eastman Kodak Company), Marti Maria (Hewlett-Packard), and Phil Green (Gjøvik University College, Norwegian Colour and Visual Computing Laboratory). For more details about the iccMAX Webinar Series, contact NPES Assistant Director, Standards Programs, Debbie Orf, at phone: 703/264-7200 or e-mail: dorf@npes.org.

Experts are welcome to contribute to ISO standards development through their corresponding national committees. Additional information on photography standards is available from the ISO/TC 42 Secretariat, isotc42@ansi.org. Additional information on graphic technology standards is available from the ISO/TC 130 Secretariat, tc170_cyc@126.com.

For questions about the activities of TC 42, for suggestions for (or input to) future updates, or standards questions in general, please contact the IS&T Standards Coordinator at standards@imaging.org.

---

the distortions in which it was trained, and performs well in videos that have natural scenes and do not have drastic scene changes. While we found that this particular model is not apt for evaluating collections with varied content, the results suggest that research into other I/VQA models is promising, and that their implementation at large scale can narrow the problem of curating very digital video collections and lead to preservation and access decisions based on informed priorities. ▲

ARCHIVING 2016

April 19 - 22, 2016
Washington, DC

View the program via
www.imaging.org/archiving

UPCOMING IS&T EVENTS

February 14 – 18, 2016; San Francisco, California
Electronic Imaging 2016

April 19 – 22, 2016; Washington, DC
Archiving 2016

September 12 – 16, 2016; Manchester, UK
Printing for Fabrication
32nd International Conference on Digital Printing Technologies

November 7 – 11, 2016; San Diego, CA
24th Color and Imaging Conference (CIC24)

Learn more at **www.imaging.org/ist/conferences/**.
A complete list of imaging-related meetings is at
www.imaging.org/ist/conferences/events.cfm