

**REGISTRATION FORM**

ICC DevCon 2010 will be held November 8, 2010 at the Sheraton Gunter Hotel, 205 East Houston Street, San Antonio, Texas.

**ICC and IS&T Members:** \$400 for each of the first and second registrations from a company  
\$300 for each additional registration from the same company

**Non-Members:** \$500 for each of the first and second registrations from a company  
\$375 for each additional registration from the same company

**Students:** \$50 for each registration

Register by October 1, 2010 for "early bird" \$50 discount (does not apply to students).

*Cancellations must be submitted in writing to ICC. Cancellations received by October 1, 2010 will receive a full refund, minus a \$50 administrative processing charge. No refunds will be issued for cancellations received after October 1, 2010. (Substitutions may be made at no charge.)*

Company \_\_\_\_\_

Name \_\_\_\_\_

Title \_\_\_\_\_ Badge Name \_\_\_\_\_

Name \_\_\_\_\_

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Full registration fee must accompany this form with payment by credit card, or check in U.S. funds drawn on a U.S. bank payable to ICC.

Visa  Master Card  American Express  Discover Card  Carte Blanche/Diners Club

Card Number \_\_\_\_\_ Expiration Date \_\_\_\_\_

Verification Number \_\_\_\_\_ Total Dollar Amount Authorized for Charge \_\_\_\_\_  
*(3-4 digits printed on back of card, after card number)*

Card Holder Name \_\_\_\_\_ Card Holder Signature \_\_\_\_\_

*Registration fees are not deductible for federal income tax purposes.*

**Retain a copy for your records and return this Registration Form to:**

ICC Secretariat  
1899 Preston White Drive, Reston, VA 20191 USA  
Telephone: (703) 264-7200 Fax: (703) 620-0994 E-mail: ksmlythe@npes.org

**The Premier Learning and Networking Event for Users and Product Developers Working with ICC-Based Color Management**

**Featuring:**

- Tutorials on Critical Color Topics by Leading Speakers
- ICC Color Management Demonstrations
- Special Networking Session
- Extensive Tutorial Materials on CD-ROM
- Efficient one-day format in conjunction with the IS&T/SID 16th Color Imaging Conference

ICC DevCon 2010 will be held in conjunction with the 18th Color and Imaging Conference, November 8-12, 2010. CIC brings together color scientists and engineers from around the globe to discuss the latest advances in the science and application of color in a single-track format. Topics range from color theory to color in devices, in systems, in applications, and in illumination.

This year's conference will offer some new courses—such as Computational Photography; Psychophysics 101; Image Quality Assessment of Moving Images; Digital Camera Image Capture and Processing; CCD/CMOS Image Sensors; and Spectral Imaging Workflow—as well as perennial favorites.

Keynote speakers include Ramesh Raskar (MIT Media Lab) on Computational Photography; Stephen E. Palmer (University of California, Berkeley) on Human Color Perception: Aesthetic Preference and Emotional Response; and, Robert Hunt on The Challenge of our Unknown Knowns.

The Society for Imaging Science and Technology (IS&T) is an international non-profit society dedicated to keeping its members and other industry professionals abreast of the latest scientific and technological developments in the broad field of imaging through conferences, journals and other publications. 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: [www.imaging.org](http://www.imaging.org).



**Why Attend?**

ICC DevCon 2010 is your opportunity to learn from the experts — experienced developers and users in the imaging, printing and publishing color community.

**Monday, November 8, 2010**

**Sheraton Gunter Hotel  
205 East Houston Street  
San Antonio, Texas**

**Presented by the International Color Consortium in conjunction with:**



**Sponsored by:**



**THE PREMIER LEARNING AND NETWORKING EVENT  
FOR USERS AND PRODUCT DEVELOPERS  
WORKING WITH ICC-BASED COLOR MANAGEMENT**





## EVENT SCHEDULE

★ 8:30 AM **CONFERENCE INTRO NOTE**  
**ICC Chair**

★ 8:45 AM **METAMERIC ISSUES WITH NON-SPECTRAL BASED VS. SPECTRAL BASED ICC PROFILES**  
**Bob Hallam**

Today's ICC Version 4 profiles and color management systems provide only partial solutions to customers' color matching requirements.

- Which color matching issues can result using current ICC profile solutions?
- How to know when your workflow will fail to provide an acceptable reproduction.
- How to know if spectral profiles will solve these color reproduction problems.
- How the ICC's Architecture working group's solutions will change the tools we use in future ICC-based color management solutions.

★ Bob Hallam is Manager of Color Technology at Quad Graphics, one of the largest printing companies in the world. He is responsible for implementing color technology solutions from capture to consumer. Bob is a member of the ICC Steering Committee, Graphic Arts Special Interest Group, Architecture, Profile Assessment, Automated Workflow, and Digital Photography Working Groups. He is also a member of the SWOP Print Properties Committee, GRACoL Steering Committee, a G7 Expert and a member of ISO TC 130.

★ 9:20 AM **MULTI-INK PROOFING & SPECTRAL METHODS USING ICC PROFILES**  
**Max Derhak**

Inkjet printers that support hifi inks that go beyond CMYK plus light ink printing provide for more opportunities than larger gamut sizes. With these extra degrees of freedom some level of spectral matching can be attempted. This presentation will discuss a few topics behind spectral printing as well as some of the caveats and approaches to working with more than four inks in ICC profiles. Current work in the ICC Architecture Working Group will be mentioned.

★ Max Derhak has been an employee of ONYX Graphics since 1991. He has been instrumental in helping ONYX Graphics pioneer the development of large-format image reproduction systems using inkjet, electrostatic, and photographic imaging technologies. Max currently leads a team that focuses on research and development as it relates to color and output quality. He holds several patents related to halftoning and color image processing. Max has actively represented ONYX Graphics in the International Color Consortium (ICC) since 2000, and currently represents ONYX Graphics on the ICC Steering Committee. In 2004, Max was named chairman of the Architecture Working Group of the ICC, a position that he still holds. Max is the lead developer for the open source Samplelcc project which serves as an example implementation of ICC color management. Max holds a bachelor's degree in computer science from the University of Utah and a master's degree in imaging science from the Rochester Institute of Technology. Max is currently working on a doctorate degree in color science from the Rochester Institute of Technology.

★ 9:55 AM **N-CHANNEL PROFILES AND SPOT COLOR PROOFING SUPPORTED BY ICC**  
**Michael Vrhel**

Most users of color management deal with Gray, RGB and CMYK device color spaces. With the use of hi-fidelity printing methods and spot colorants it is necessary to use nontraditional device color spaces. In this talk, we will review the use of ICC profiles in providing color management for these color spaces. In addition, we will discuss how such color spaces are used in Page Description Language formats including PostScript, PDF and XPS.

★ Michael Vrhel is the Color Scientist at Artifex Software Inc. He was awarded his Ph.D. in electrical engineering from North Carolina State University in 1993; during his Ph.D. he was an Eastman Kodak Fellow. He has many years' experience working in digital imaging, including medical imaging and signal processing at the National Institutes of Health; color instrument and software design at Color Savvy Systems, and positions at Conexant Systems, TAK Imaging and Pagemark Technology. A senior member of the IEEE, he has a number of patents and is the author of numerous papers in the areas of image and signal processing as well as the text book Fundamentals of Digital Imaging (with H. J. Trussell).

★ 10:30 AM **COFFEE BREAK W/STUDENT POSTERS**

★ 10:45 AM **SPOT COLOR OVERPRINT MODELS REVIEW**  
**Kiran Desphande & Phil Green**

Accurate prediction of spot colors and their overprints is an active research field. Spot colors are widely used in the printing and packaging industry. There are many challenges when matching spot colors particularly if the spot color is to be superposed with other colors. Further information, like transparency of ink, is required to match these special colors on digital printers. There is a need for a comprehensible model which could be easily used to characterize special inks and match them across various printing applications. The proposed ink opacity model is an attempt to provide an easy method for predicting the spot color overprints. Additionally, this model may be incorporated in PDF/X to define the spot colors unambiguously and to facilitate the communication of spot colors.

★ Kiran Deshpande is a Ph.D. student at London College of Communication, where he received his MSc in digital color imaging. He has a good working experience of color management, quality control and digital printing in the Graphic Arts industry. His research interests include: N-color printing, spot color overprints, spectral printer models and color gamut.

★ 11:20 AM **DISCUSSION ON FEATURES VS. VERSIONS OF ICC PROFILES**  
**Jack Holm**

The ICC Version 4 (v4) specification has been out for 10 years now, and most color management systems support v4 ICC profiles, but v2 ICC profiles are still widely used. This talk is intended for people who make ICC profiles and color management systems, and will focus on:

- What can and can't be done with v2 and v4 profiles
- How to simplify ICC color management
- How to enable new color management capabilities
- How the recently published ISO 15076-1 Second Edition can be applied in the construction of both v2 and v4 profiles

Feedback will be requested regarding whether the ICC should explicitly address the construction of v2 profiles based on current best practices and user interface issues.

★ Jack Holm is the President & CTO of Tarkus Imaging, a San Jose, California startup engaged in digital photography technology development and licensing, consulting, and test & measurement. He is the chair of the ICC Digital Photography Working Group and serves as liaison between the ICC and ISO TC42 (Photography). Formerly, he was Vice-Chair of the ICC, a Principal Scientist at HP, and a professor at RIT.

★ 11:55 AM **IMPLEMENTATION OF CM FOR DEVELOPERS - v2 + BPC**  
**Marti Maria**

This talk will address what is black point compensation, present use cases, and discuss how to implement black point compensation in a v2 capable CMM. Ambiguities on pre-v4 specifications make such implementation challenging, as v2 profiles may exhibit interoperability issues and the CMM has to be robust enough to deal with that.

★ Marti Maria is a color engineer at the large format printer division of Hewlett-Packard. He worked previously at ICR; a company specialized in imaging and color. Marti is also the author of well-known open source color-oriented packages, like the LittleCMS open CMM and the LPROF profiler construction set. He has contributed to several color books and was session chair on Color & Imaging Conference 16.

★ 12:30 PM **LUNCH BREAK**

★ 1:30 PM **MANAGEMENT OF THE UV MEASUREMENTS AND SUBSEQUENT PROFILE CREATION**  
**James Vogh**

Optical paper brightener is used to make paper appear brighter and less yellowish by converting UV light into visible blue light. Because measurement devices generally don't have the same UV content as the light sources that output is viewed under, significant color differences can be present. This talk is intended for people who make ICC profiles and will focus on:

- How to make measurements that characterize the optical paper brightener in the paper
- How to characterize the behavior of the optical paper brightener in the viewing conditions where the output will be viewed
- How to build an ICC profile that will accurately match colors in the chosen viewing conditions
- ISO 13655 measurement conditions

★ James Vogh received his M.S. degree in Electrical Engineering from the University of Tulsa in 1990 and a Ph.D. in Cognitive and Neural Systems from Boston University in 1998. During his Ph.D. studies he developed a neural network architecture for recognizing 3D objects. At Monaco Systems he developed ICC-based calibration technologies. Since 2004, he has been a principal engineer at X-Rite where he continues to develop calibration technology as he conducts advanced research in color science.

★ 2:35 PM **UPDATES TO CM IN PDF & COLOR DATA COMMUNICATION**  
**Craig Revie & Leonard Rosenthal**

Adobe has given the PDF Specification to the International Standards community for standardization and ongoing development. A number of additions have been made to this standard and further additions have been proposed for the next revision. This talk will describe these enhancements, explain the set of problems that they are designed to solve, and show how they can be used in a print workflow to produce an improved color result.

The talk will be in two parts, the first part will focus on a description of how the color data and process controls are encoded in PDF documents and the second part will discuss how document creators, processors and printers should make use of these features in order to ensure accurate communication of color for print.

★ Craig Revie has been with FFEI (formerly Fujifilm Electronic Imaging) since January 2001 where he is a principal consultant to the RIP and workflow development group. Most recently he has been responsible for the development of Fujifilm XMF Workflow, a software product designed to enable high quality production of graphic arts print production. In addition to his responsibilities with FFEI, Craig represents Fujifilm on the ICC and ISO TC130 standards groups. He recently served as ICC chairman and for quite a few years has been chair of the Graphic Arts Special Interest Group.

★ Leonard Rosenthal serves as the PDF Standards Architect for Adobe Systems having been involved with PDF technology for more than 12 years. Leonard also serves as the ISO Project Editor for ISO 19005 (PDF/A) and 24517 (PDF/E). Prior to joining Adobe, Leonard worked as the Director of Software Development for Appligent, and was the Chief Innovation Officer for Apago, while also running the successful consulting business of PDF Sages. Before becoming involved in PDF, Leonard was the Director of Advanced Technology for Aladdin Systems and responsible for the development of the Stuffit line of products.

★ 3:35 PM **COFFEE BREAK W/STUDENT POSTERS**

★ 4:00 PM **PERSPECTIVE ABOUT CURRENT ROADBLOCKS TO IMPLEMENTATION OF ICC WORKFLOW**  
**Chris Murphy**

What is meant by "ICC workflow" is critically important to answer if we are to determine what the impediments are to adopting them, from proofing systems to web browsers. The ICC specification itself is an impediment, making it difficult for developers to innovate new products, and write out valid production quality ICC profiles. Users are rarely ever in standard viewing conditions, upon which much of the promise of an ICC workflow depends, and rather need a more capable workflow than presently exists. There will also be an overview of various default workflow behaviors as roadblocks to adoption for users.

★ Chris Murphy is currently president of Color Remedies™ and is based in New York City. He specializes in worldwide training and consulting in emerging color technologies and has extensive experience in implementing color management workflows. He is a respected conference and seminar speaker, including for the Color Management Conference, Indesign Conference, PhotoshopWorld, PMA, DIMA, and MacWorld. He also teaches a one-semester class on color management and output at the School of Visual Arts in New York City for the MPS Digital Photography program. He has been involved in computers and technology since he was in diapers, and as a professional trainer for over ten years. Some people believe he has extra-sensory vision, but he assures us that he does not. Chris Murphy is co-author of "Real World Color Management, 2nd Edition" ISBN 0-321-26722-2 published by Peachpit Press.

★ 4:35 PM **ICC BENEFITS AND BUSINESS CASE FOR COLOR MANAGEMENT AND ICC PROFILES.**  
**Bob Hallam**

Today's ICC Version 4 profiles and color management systems provide some of the most cost-effective solutions to color matching and cost savings in Graphic Arts workflows.

- Which areas of a printing company's workflows are low hanging fruit?
- What solutions are still needed?
- How ICC-based color management provides solutions that save money and improve color reproduction accuracy and workflow consistency.

★ **SHERATON GUNTER HOTEL**

Located in the heart of downtown, the Sheraton Gunter Hotel places you in the middle of all that is San Antonio. Take in a show at the Majestic Theater or stroll down the world-famous Riverwalk, both are just across the street.

**205 East Houston Street • San Antonio, Texas 78205**  
**Phone: (210) 227-3241 • Fax: (210) 227-3299**

★ 5:10 PM **SUCCESSFUL INVESTMENTS IN CM – CASE STUDIES**  
**Brian Ashe**

What makes a company successful when it comes to implementing a color-managed workflow? What criteria should we use to measure and judge success? With an eye towards "the bottom line" this presentation looks at the lucrative ROI realized by several companies that invest in color managed workflow. Due to the poor economy over the past few years, many printers have delayed purchasing new capital equipment (e.g. new offset press). This is a great target audience for a color-managed workflow. They are looking to increase the productivity of existing equipment that, more than likely, does not possess modern monitoring tools.

The advent of just in time inventory has led to press runs diminished in length. Printers are typically running more short-run jobs. With more individual jobs running, and each job requiring make ready time, the result is an increased number of make readies. There are different opinions as to what a make ready consists of, but all would agree it entails aspects such as hanging plates, registering image, inking printing units and bringing the job up to color. Some of these tasks can be thought of as mechanical (hanging plates, registration); others are more subjective (bring job up to color). A color-managed workflow will not help with the mechanical part, but will lower the time spent on the subjective part, including reducing the amount of raw materials (paper, ink) used during the make ready.

★ Brian Ashe brings 25 years of experience to the field of color management. Brian applies his expertise in color reproduction across a variety of industries including graphic arts, packaging, textiles, plastics and inks working with a client base as diverse as the Metropolitan Museum of Art, Proctor & Gamble, NASA's Jet Propulsion Laboratory and DreamWorks. Brian teaches clients about setting standards, communicating color, and process control. Brian's background in Quality Assurance, ISO certification and print production gives him a unique perspective on customer needs. Brian has presented papers at a variety of color conferences such as Clemson University, FFTA, GATF, and has been a guest lecturer at RIT and Parsons School of Design.

★ 5:40 PM **BREAK**

★ 6:00 PM **NIGHT RECEPTION + BOOTH PRESENTATION + STUDENT POSTERS**

