

6th IS&T/SID Color Imaging Conference 1998

Color Science, Systems, and Applications

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17-20 November 1998**

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The Papers Program

Wednesday, November 18, 1998

Color Science

Introduction to the Color Imaging Conference

Sabine Süsstrunk, Corbis Corporation and
Andras Lakatos, Xerox Corporation

Wednesday Morning, November 18, 1998

Session I: Human Visual Systems

Session Chair: *Paula Alessi*, Eastman Kodak Company

- 8:15 am *Keynote—Physiological Mechanisms of Primate Color Vision* 1
David H. Hubel, Harvard University, USA
- 9:00 am **Multiscale Model of Adaptation, Spatial Vision and Color Appearance** 2
*Sumanta N. Pattanaik*¹, *Mark D. Fairchild*², *James A. Ferwerda*¹, and *Donald P. Greenberg*¹,
¹Program of Computer Graphics, Cornell University, Ithaca, New York, USA
²Center for Imaging Science, RIT, Rochester, New York, USA
- 9:25 am **Development and Testing of a Color Space (IPT) with Improved Hue Uniformity** 8
Fritz Ebner, Xerox Corporation, Webster, New York, USA
Mark D. Fairchild, Munsell Color Science Laboratory,
Rochester Institute of Technology, Rochester, New York, USA
- 9:50 am **BREAK**

Wednesday Morning, November 18, 1998

Session II: Appearance Models

Session Chair: *Mark Fairchild*, Munsell Color Science Laboratory, RIT

- 10:20 am **CIE Work in Color Imaging** 14
Alan R. Robertson, Inst. for National Measurement Standards,
Nat'l. Research Council of Canada, Ottawa, Ontario, Canada
Janos Schanada, Department of Image Processing and Neurocomputing,
University of Veszprem, Hungary
Todd Newman, Canon Information Systems, Cupertino, California, USA
- 10:45 am **A Comparison of CIELAB and CIECAM97s** P IC
Nathan Moroney, Hewlett-Packard Laboratories, Palo Alto, California, USA
- 11:10 am **Influence of Background Characteristics on Adapted White Points of CRTs** 22
Peyma Oskoui, Hewlett-Packard Laboratories, Palo Alto, California, USA
Elizabeth Pirrotta, Color Science Consultant, Mountain View, California, USA
- 11:35 am **Visibility of Thin Lines on Coloured Backgrounds** P IC
R. Victor Klassen, *Karen M. Braun*, *Robert R. Buckley* and *Kalpna Janamanchi*
Xerox Corporation, Webster, New York, USA
- 12:00 am **LUNCH**

Wednesday Afternoon, November 18, 1998

Session III: Reproduction Models

Session Chair: *John McCann*, McCann Imaging

- 1:30 pm **Focal Paper—Prime Colors and Color Imaging** 33
M. H. Brill, Sarnoff Corporation, Princeton, New Jersey, USA
G. D. Finlayson, Univ. of Derby, Derby, UK
P. M. Hubel, Hewlett Packard, Palo Alto, California, USA
W. A. Thornton, Prime Color Inc., Cranford, New Jersey, USA
- 1:55 pm **Experiments in Sensor Sharpening for Color Constancy** P IC 47
Kobus Barnard and Brian Funt, Simon Fraser University, Burnaby, British Columbia, Canada
- 2:20 pm **White-Point Preservation Enforces Positivity** 47
Graham D. Finlayson, The Colour & Imaging Institute,
The University of Derby, Derby, United Kingdom
Mark S. Drew, School of Computing Science,
Simon Fraser University, Vancouver, British Columbia, Canada
- 2:45 pm **Verification of Gamut Mapping Algorithms in CIECAM97s Using Various Printed Media** P IC
Ján Morovic and M. Ronnier Luo, Colour & Imaging Institute,
University of Derby, Derby, United Kingdom
- 3:10 pm **Gamut Mapping: Evaluation of Chroma Clipping Techniques for Three Destination Gamuts** 57
Ethan D. Montag and Mark D. Fairchild, Munsell Color Science Laboratory,
Chester F. Carlson Center for Imaging Science, Rochester Institute of Technology,
Rochester, New York, USA
- 3:45 pm **BREAK**

Wednesday Afternoon, November 18, 1998

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Session Chair: *Danny Rich*, Datacolor International

- 4:00 pm **NIST Reference Spectroradiometer for Color Display Calibrations** 62
Steven W. Brown and Yoshi Ohno, Optical Technology Division,
National Institute of Standards and Technology, Gaithersburg, Maryland, USA
- 4:25 pm **Four-Color Matrix Method for Correction of Tristimulus Colorimeters—Part 2** P IC
Yoshi Ohno and Steven W. Brown,
National Institute of Standards and Technology, Gaithersburg, Maryland, USA
- 4:50 pm **Correcting Color-Measurement Error Caused by Stray Light in Image Scanners** 69
Peter A. Jansson, DuPont Company, Wilmington, Delaware, USA
Robert P. Breault, Breault Research Organization, Tucson, Arizona, USA
- 5:15 pm **Device Independent Color Measurement: Transforming Gretag Measurement Data into Simulated X-Rite Data** 74
David L. Spooner, rhoMetric Associates, Ltd., Wilmington, Delaware, USA

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Conference Reception

Thursday Morning, November 19, 1998

Color Devices

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Session Chair: *Ricardo Motta*, Hewlett Packard Corporation

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Robert W. G. Hunt, Color Consultant, University of Derby, Derby, England
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Peter D. Burns, Eastman Kodak Company, Rochester, New York, USA
Roy S. Berns, Munsell Color Science Laboratory, Chester F. Carlson Center for Imaging Science,
Rochester Institute of Technology, Rochester, New York, USA
- 9:40 am **BREAK**
- 10:10 am **A Huge Spectral Characteristics Database and its Application to Color Imaging Device Design** 86
Johji Tajima, C&C Media Research Laboratories, NEC Corporation, Kawasaki, Japan
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Graham D. Finlayson and Steven Hordley, Colour & Imaging Institute,
University of Derby, Derby, United Kingdom
Paul M. Hubel, Hewlett-Packard Laboratories, Hewlett-Packard Company, Palo Alto, California, USA
- 11:00 am **Dichromatic Based Photographic Modification** P IC
Liang Peng, NVIDIA Corporation, Santa Clara, California, USA
- 11:25 am **LUNCH**

Thursday Afternoon, November 19, 1998

Session VI: Output

Session Chair: *Gary Starkweather*, Microsoft Corporation

- 1:30 pm **Image Quality Issues for High Resolution TFTLCDs** P IC
Steven L. Wright, Robert W. Nywening and Steven E. Millman
IBM Watson Research Center, Yorktown Heights, New York, USA
James Larimer, NASA Ames Research Center, Moffett Field, California, USA
Jennifer Gille and Jeff Luszcz, Raytheon Systems, Ames Research Center,
Moffett Field, California, USA
- 1:55 pm **Spectral-Based Ink Selection for Multiple-Ink Printing I. Colorant Estimation of Original Objects** 106
Di-Yuan Tzeng and Roy S. Berns, Munsell Color Science Laboratory,
Chester F. Carlson Center for Imaging Science, Rochester Institute of Technology,
Rochester, New York, USA
- 2:20 pm **Colorant Selection for Six-Color Lithographic Printing** P IC
J. A. Stephen Viggiano and William J. Hoagland,
RIT Research Corporation, Rochester, New York, USA
- 2:45 pm **Spectral Colour Prediction Model for a Transparent Fluorescent Ink on Paper** P IC
Patrick Emmel and Roger David Hersch, Laboratoire de Systèmes Périphériques,
Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland

Thursday Afternoon, November 19, 1998

3:10 to 5:30 pm

Session VII:

The Poster Session

Session Chair: *Karen Braun and Raja Balasubramanian*, Xerox Corporation

The Posters will be on display throughout the day on Wednesday and Thursday.

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Panel Discussion—Color Standards

Moderator: *Robert Hunt*

Panelists: *Tim Kohler, ICC; Alan Robertson, CIE; Tony Johnson, ISO; Hiroaki Ikeda, IEC*

Recorder: *David Q. McDowell, Eastman Kodak Company*

Friday Morning, November 20, 1998

Color Communications

Session VIII: Encoding

Session Chair: *Rob Buckley, Xerox Corporation*

8:30 am *Keynote—Is Mars Really Red? Color Imaging from Mars Pathfinder*
Peter H. Smith, Lunar and Planetary Lab., University of Arizona, USA

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* paper not available at time of publication

9:15 am	Overcoming Gamut and Dynamic Range Limitations in Digital Images <i>Gregory Ward Larson</i> , Silicon Graphics, Inc., Mountain View, California, USA	214
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Session Chair: *Graham Finlayson*, Colour & Imaging Institute, University of Derby (UK)

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