

# CIE Division 8 Update

**CIE 25th Quadrennial MEETING**

**Div 8 Liaison Report**

**San Diego, California**

**June 25 July 2, 2003**

**Alan Kravetz, US Delegate**

# Terms Of Reference

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**To study procedures and prepare guides and standards for the optical, visual and metrological aspects of the communication, processing and reproduction of images, using all types of analogue and digital imaging devices, storage media and imaging media**

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# OFFICERS

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- # **Director of Division** Todd Newman
  - # **Associate Director** Noboru Ohta\*resigned
  - # **Secretary of Division** David McDowell
  - # **Editor of Division** Michael Pointer
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# TECHNICAL COMMITTEES

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- # **TC8-01 Colour Appearance Modeling for Colour Management Applications - Nathan Moroney**
  - # **TC8-02 Colour Difference Evaluation in Images - M. Ronnier Luo**
  - # **TC8-03 Gamut Mapping - Jan Morovic**
  - # **TC8-04 Adaptation Under Mixed Illumination Conditions - Naoya Katoh**
  - # **TC8-05 Communication of Colour Information - Robert Buckley**
  - # **TC8-06 Image Technology Vocabulary - Janos Schanda**
  - # **TC8-07 Multispectral Imaging - P.Herzog formed Nov. '02**
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# REPORTERS

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- # R8-01 Grading of Colour Measurement Equipment Y. Ohno ( [CLOSED](#) )
  - # R8-02 Fluorescence C. McCamy ( [CLOSED](#) )
  - # R8-03 Potential Interaction between CIE and IEC TA2 H. Ikeda ( [CLOSED](#) )
  - # R8-04 Effects of Fluorescence in Characterization of Imaging Media Will issue report on latest experiments and close reportership D. Rich
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# ***TC 8-01 Colour Appearance Modeling for Colour Management Applications***

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- # To study, develop and recommend methods for the application of a colour appearance model based on CIECAM97s for use in digital colour management, and to produce clear guidelines for the use of such a model for specific applications. Consideration is to be given to the colour and engineering requirements for open colour management systems.**
  - # Chair: Nathan Moroney (US)**
  - # Current action: Division Ballot sent April 4 closing July 4, 2003 extension requested till July 31, 2003 entitled: - "A Colour Appearance Model for Colour Management Systems: CIECAM02"**
  - # Upon approval the TC will be closed and a Reportership opened**
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# ***TC 8-02 Colour Difference Evaluation in Images***

- **To study, develop and standardize methods to derive colour differences for images. Chair: Ronnier Luo (UK).**
- **Deliverables:**
  - **TC 8-02 Technical Report *Methods for deriving colour difference images***
  - **A collection of available experimental data sets**
  - **A ring test to assess a set of printed images between different sites**
  - **To recommend a colour difference formula with weights for individual colour difference components and an option on spatial filters**

# ***TC 8-02 Colour Difference Evaluation in Images cont'd***

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## **# Progress:**

### **# TC report V3 *Methods for deriving colour difference in Images***

- Implementation of spatial filters as an worked example

### **# Ring test**

- Preparation of a set of printed images
  - Visual assessments at University of Derby
  - Visual assessments at HP (Barcelona)
  - Experiment at FujiFilm, complete by 15 July.
  - Experiment at HP (Boise), complete by 15 Aug.
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# ***TC 8-02 Colour Difference Evaluation in Images cont'd***

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## ■ **Schedule:**

- Complete the TC8-02 technical report *Nov.'03*
  - Complete the ring test *Sept.'03*
  - Complete the data analysis + Results *Nov. '03*
  - To propose a standard method including *Feb.'04*
    - Test images
    - Colour difference formula
    - Spatial filters
    - Perceptibility threshold
    - **Next Meeting: CIC 11 Scottsdale Nov.'03**
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# ***TC 8-03 Gamut Mapping***

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- **To study, develop and recommend an optimal solution for cross-device and cross-media image reproduction. This solution will provide a standard procedure to calculate the colour gamut of an image, an imaging system, or its components, and either one algorithm, or a set of algorithms and rules for use in specific applications.**
  - **Chair: Jan Morovic (UK).**
  - **Current action: Division Ballot sent April 4 closing July 4, 2003 extension requested till July 31, 2003 entitled:-  
“Guidelines for Evaluating Gamut Mapping Algorithms”**
  - **The TC will remain open after the report is issued**
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# ***TC 8-04 Adaptation under Mixed Illumination Conditions***

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- ✦ **To investigate the state of adaptation of the visual system when comparing soft-copy images on self-luminous displays and hard-copy images viewed under various ambient lighting conditions.**
  - ✦ **Chair: Naoya Katoh (Japan).**
  - ✦ **Will use recommendation from TC8-01 on CAT (chromatic adaptation transform) model**
  - ✦ **Report being sent to TC members**
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# ***TC 8-05 Communication of Colour Information***

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- To standardize a minimal set of techniques that enable unambiguous and efficient communication of the colour information in images. Two fundamental approaches will be addressed: 1. The association with the image data of additional data that describes the colour space of the image data. 2. The representation of the image data in a standard colour space. The standard will also define a minimal set of standard colour spaces that addresses a wide range of image applications. Whenever possible, existing standard colour spaces will be used in preference to creating new ones.**
  - Chair: Robert Buckley (US)**
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# ***TC 8-05 Communication of Colour Information cont'd***

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**■ Draft Report Sent to TC Members**

# ***TC 8-06***

## ***Image Technology Vocabulary***

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- **To liaise with TC 7-06 and collate definitions of terms associated with image technology.**
  - **Chair: Janos Schanda (Hungary).**
  - **Current actions: Collect terms from:**
    - **approved TC 8-01 and TC8-03 ballots**
    - **the ICC**
    - **ISO TC42**
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# New TC Nov '02

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- # **Title TC 8-07 Multispectral Imaging**
  - # **Chair: P. Herzog, DE**
  - # **Terms of reference: *To study develop and recommend encoding techniques and data formats for the exchange of multispectral images and to provide test procedures for the evaluation of multispectral imaging systems***
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# Division Website

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**<http://colour.org>**

**or you can get to it from the CIE**  
**home website at**  
**<http://www.cie.co.at/cie>**

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# New Reportership June'03

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## # **R 8-05 Image Appearance**

To investigate and report on research extending colour appearance models to include properties of spatial vision for static images and scenes, with a particular focus on:

- # Spatial filtering for image difference metrics
  - # Spatial adaptation for imaging rendering
  - # Potential interactions between or connections of (1) and (2)
  - # **Reporter: M. Fairchild (US)**
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# New Reportership June'03

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**# R 8-06 Results of CIECAM02**

**# To Monitor the response of CIECAM02 including answering questions, reviewing literature and making recommendations for future work**

**# Reporter: N. Moroney (US)**

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# New TC Proposal

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- # **TC: Testing of Spatial Colour Appearance Models**
  - # **Terms of Reference:** To design, implement and report the results of a psychophysical test comparing the output of spatial colour appearance models (including Retinex, MOM, and iCAM) for high dynamic range still images.
  - # **Chairman:** Garrett Johnson (US)
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# REPORT

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- # **CIE EXPERT SYMPOSIUM on Image Acquisition and Display**
  - # **15 - 17 September 2004**  
**Central Building of the Hungarian Academy of Sciences**  
**Budapest, Hungary**
  - # **Discuss open questions of image capturing and display, with special emphasis on device modelling, multispectral image capturing and display, characterization and calibration issues, and the best use of colour appearance models and gamut mapping algorithms.**
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# REPORT

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- **Several TC meetings are being planned for Scottsdale with CIC 11 Nov. '03**
  - **Divisional meeting planned for CIC, ISCC joint meeting in Scottsdale Nov. '05**
- Please check web site for latest info!!!!**



# **THE END**

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# USA Member

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 **Delegate**

**Alan Kravetz**

 **Alternate**

**Danny Rich**