15 | Dec | 2009

Workshop
Colorimetry

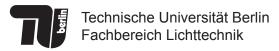Color at work places with displays, printers,

and data projectors

problems and solutions

Make a profit from the expert knowledge of the section Lighting Technology of the Berlin University of Technology.

Prof. Dr. Klaus Richter, expert for colorimetry, teaches in the workshop basic properties of colorimetry and of color management. It is shown, how the total workflow from the color scanner via the color display and the color printer can be optimized on an ISO-CIE-DIN base. For example by intelligent color separation for the print the material efficiency can be increased by 30% without distinguishable change of the color output.

The workshop is addressed to designers, creators, and people in the field of ergonomics, software developers, measurement technicians, students, technicians, chemists, engineers in the area of quality control, color mixture, printing industry, and display development.

Technische Universität Berlin
Fachbereich Lichttechnik

Meeting place
Technische Universität Berlin (Berlin University of Technology)
Fachgebiet Lichttechnik (Section Lighting Technology)
Einsteinufer 19 - Building E - third floor
10587 Berlin
For details see www.tu-berlin.de/?id=698
For map see www.li.tu-berlin/menue/lageplan

Costs
Participation fee
790 EURO
For members of DfwG, DFZ, LiTG or VFL members reduced to
700 EURO
For members of authorities, university members, and ISO standard committees reduced to
390 EURO

DfwG - Deutsche farbwissenschaftliche Gesellschaft e.V.
      www.dfwg.de
DFZ - Deutsches Farbenzentrum e.V.
      www.DeutschesFarbenzentrum.de
LiTG - Deutsche Lichttechnische Gesellschaft e.V.
      www.litg.de
VFL - Verein zur Förderung des Fachgebietes Lichttechnik der Technischen Universität Berlin e. V.
      www.li.tu-berlin.de/menue/foerderverein

Beverages, lunch and the book "Farbmetrik, PostScript und Computergrafik" are included in the costs. The attendance is limited because of the necessary display and printer work places. Therefore a timely registration is recommended. The participants will receive an immediate confirmation and a bill. The attendance fee shall be transferred before the seminar.

Registration per mail, fax, or email
Technische Universität Berlin (Berlin Institute of Technology)
Fachgebiet Lichttechnik (Section of Lighting Technology)
Chair E6
Einsteinufer 19, 10587 Berlin
Phone: +49 30 314 - 22277
Fax: +49 30 314 - 22161
Email: lichttechnik@ee.tu-berlin.de

Registration

Company...

Section..

Street..

Town...

title...

First Name...

Last Name...

Email...

DfwG-member: Yes ....   No ....

DFZ-member: Yes ....   No ....

LiTG-member: Yes ....   No ....

VFL-member: Yes ....   No ....

Member of authorities, university, or ISO Standard Committee   Yes ....   No ....

Date, Signature   ....

For further Announcements see under "Veranstaltungen"
www.li.tu-berlin.de

Workshop:
Colorimetry
Color at work places with displays, printers, and data projectors
problems and solutions

Date
Tuesday, December 15th, 2009

Leadership
Prof. Dr. Klaus Richter, email:
klaus.richter@mac.com

Content of the workshop
– Color vision, color attributes, and color
  measurement with CIEXYZ and CIELAB
– Color rendering and relative elementary
  color reproduction
– The „Relative Elementary Color System
  (RECS)" and the corresponding digital and
  analog color atlas
– PostScript, color coordinates, and color
  reproduction according to DIN 33866-1
  to -5:2000, and DIN 33872-1 to -6 (in print),
  ISO/IEC 15775:1999,
  ISO/IEC TR 19797:2004, and
  ISO/IEC TR 24705:2005
– Linearization of color reproduction systems
  (color scanners, monitors, printers, offset
  print)
– Trusted and provable relative color output
  with equally spaced color series on any
  output device
– Exercises with color displays, printers,
  scanners, and color measuring instruments
  with discussion
– Trends and preliminary definition of a
  device-independent visual RGB color space
  for image technology

**Device equipment and application software in
the workshop:**
Display work places (24 inches) with the operating
systems Mac, Windows, and Unix, and color printers
and color measuring instruments.

Workshop goal
– Understanding and application of basis properties of
  colorimetry and color management
– Better understanding of the book „Farbmetrik,
  PostScript und Computergrafik", which all
  participants will get
– Linearization of output with color devices (scanners,
  displays, printers) according to
  DIN-ISO-CIE-standards.
– Optimization of color output with color displays and
  printers according to DIN 33872-1 to -6 (in print).
– Increase of the material efficiency of printers, for
  example by 30%, by intelligent color separation
  without distinguishable visual color output change,
  and corresponding cost reduction for color toner
  and color inks.
– Choose of color device systems, which are in
  agreement with YES/NO criteria of DIN 33872-1 to -6
  and include the computer operating system and
  appropriate application software
– Optimization of the color output of color displays at
  display work places according to ISO 9241-306: 2008
  for eight possible viewing conditions at practical
  office work places.
– Trusted and provable color output of office
  documents with displays and printers with the RECS
  as reference.
– Application of the „Relative Elementary Colour
  System (RECS)", which consists of a digital and
  analog color atlas with 2000 color samples and
  linear relations rgb* - LCH* of the CIELAB color
  system

**Further information and introduction in
the workshop topic:**
Exercises of the output properties on displays
and printers with test charts according to DIN
33872-1 to -6 (in print)
http://www.ps.bam.de/33872E

Abbreviations
PostScript: registered trademark of Adobe
Systems Inc.
CIE: International commission on illumination
ISO / IEC: International Organization for
Standardization / International Electrotechnical
Commission
DIN: Deutsches Institut für Normung e. V.
(German Institute for Standardization)