

Mitchell Rosen
Munsell Color Science Laboratory
Rochester Institute of Technology
54 Lomb Memorial Drive
Rochester, New York 14623
585-475-7691
rosen@cis.rit.edu
<http://www.cis.rit.edu/rosen>

EMPLOYMENT HISTORY

Rochester Institute of Technology, Rochester, NY, 1998 - present

Research Professor, 2004 – present

- Chair, Digital Cinema Program, School of Film and Animation
- Teaching
 - Color Systems (in-class and distance versions)
 - Introduction to Computers and Imaging
 - MS Projects
 - Research and Thesis
 - Short Courses and Tutorials
- Student advising
- Project Management
 - Project sponsors include Mellon Foundation, Sharp Labs, Museum of Modern Art, Nat. Gallery of Art, NSF, Sony, Fuji Xerox, Kodak, Epson, NSF, NYSTAR, Unilever, Microsoft
- Research
 - Munsell Color Science Laboratory
 - color management
 - spectral color management
 - computation issues in spectral image acquisition and reproduction
 - museum imaging for art reproduction
 - multi projector and multi camera systems for smarter classrooms
 - Visual Perception Laboratory
 - eye and head tracking
 - spatio-velocity contrast sensitivity
 - working memory issues
 - Computer-Human Interface issues

Senior Color Scientist, 1998 – 2004

- Teaching
 - Color Systems (in-class and distance versions)
 - Special Topics Course on color management
 - MS Projects
 - Short Courses and Tutorials
- Student advising
- Project Management
- Xerox Chair administration:, 1998 – 2003
 - responsible for over \$1.5 Million in contracts and endowment
 - budgets, strategy, negotiation, purchasing, student support,etc.

Polaroid Corporation, Cambridge, MA, 1989 – 2000:

Senior Scientist, Image Science Laboratory

- Manager
- Project leader
 - moving image exploitation
 - desktop photofinishing project
- Image science support leader:
 - scanner product line
 - Polaroid Graphics Imaging ink jet printers
 - experimental printers
 - digital camera simulation platform
- Physical models for ink-jet printers
- Color management, ICC representation and PostScript Developer
- Maintained large subroutine library for color and image processing

Massachusetts Institute of Technology, Cambridge, MA, 1985 – 1987:

Laboratory Manager and Programmer: Visual Language Workshop, Media Lab

EDUCATION

- Ph.D, Imaging Science, 2003, RIT, Rochester, NY
- MS, Imaging Science, 1993, RIT, Rochester, NY
- BS, Computer Science, 1984, Tufts University, Medford, MA

RECENT PROFESSIONAL ACTIVITIES

- Color Imaging Editor, IS&T Journal of Img.. Science & Techn., 2002 - present
- Tutorial Co-chair, Color Imaging Conference, 2006, 2007
- Apple Certified Pro, Final Cut Pro, 2006
- Short Courses and Tutorials presented at conferences and other venues
- Conference Chair, 2003 & 2006 Inter. Spectral Imaging Symposia
- Member, CIE Technical Committee, TC8-07
- Delegate, International Color Consortium

RECENT AWARDS

- IS&T Cactus Runner-up, co author 2nd place Poster, CIC, 2006
- RIT Patent Productivity Award, 2005
- IS&T Cactus Runner-up, co-author 2nd place Poster, CIC, 2004
- RIT Intellectual Property Productivity Award, 2002
- IS&T Cactus Award, co-author Best Poster, CIC, 2000

PATENTS

MR Rosen, N Ohta, US Patent 6920244: A Data-efficient and Self-adapting Imaging Spectrometry Method and an Apparatus Thereof (2005).

MR Balonon-Rosen, JE Thornton, US Patent 6307961: User-interactive corrective tuning of color profiles (2001).

MR Balonon-Rosen, JE Thornton, US Patent 6072901: System and method for deriving an invertible relationship between color spaces where the intrinsic mapping is one-to-many for use in a color profile production system (2000).

I Meir, MR Balonon-Rosen, JE Thornton, DP Bybell, MC Antin, FR Cottrell, US Patent 6037950: Configurable, extensible, integrated profile maintenance environment for facilitating image transfer between transform spaces (2000).

5 additional US patents pending

2 additional PCT International patents pending

BOOKS AND BOOK CHAPTERS

MR Rosen and N Ohta, Editors, Color Desktop Printer Technology, CRC Press, Boca Raton (2006).

MR Rosen, Color Management, in Color Desktop Printer Technology, Edited by MR Rosen and N. Ohta, CRC Press, Boca Raton (2006).

MR Rosen, FH Imai, Y. Chen, LA Taplin and RS Berns, Desktop Spectral-Based Printing, in Color Desktop Printer Technology, Edited by MR Rosen and N. Ohta, CRC Press, Boca Raton (2006).

MR Rosen, "Color Theory" in Focal Encyclopedia of Photography, 4th Ed., Edited by M. Peres, Focal Press, *in press* (2006).

N. Ohta and MR Rosen, Optimization of Colour Reproduction, John Wiley and Sons, *in preparation* (2006).

PUBLICATIONS

S. Tsutsumi, MR Rosen and RS Berns, Spectral Color Management using Interim Connection Space Decomposition, Proc. of 14th Color Imaging Conf., pp. 246 – 251 (2006).

S. Tsutsumi, MR Rosen and RS Berns, Spectral Reproduction using LabPQR: Inverting the Fractional-Area-Coverage-to-Spectra Relationship, Proc. of ICIS, pp. 107 – 110 (2006).

MW Derhak and MR Rosen, Spectral Colorimetry using LabPQR – An Interim Connection Space, J. Imaging Sci. Technol, **50**, pp. 53 - 63 (2006).

DR Wyble and MR Rosen, Color Management of Four-Primary DLP Projectors, J. Imaging Sci. Technol, **50**, pp. 17 - 24 (2006).

MR Rosen and MW Derhak, Spectral Gamuts and Spectral Gamut Mapping, Proc. SPIE, **6062** (2006).

JL Laird, MR Rosen, JB Pelz, ED Montag and S. Daly, Spatio-velocity CSF as a function of retinal velocity using unstabilized stimuli., Proc. SPIE, **6062** (2006).

Z Cattanea, JB Pelz, A Postma, MR Rosen, T Vecchi, Memory for pictures and words: an investigation of the picture superiority effect in the spatial domain, Proc. of Xth European Workshop on Imagery and Cognition (2005).

- RS Berns, FS Frey, MR Rosen, EP Smoyer and LA Taplin, Direct Digital Capture of Cultural Heritage - Benchmarking American Museum Practices and Defining Future Needs Final Report, RIT (2005).
- JL Laird, ED Montag, MR Rosen and JB Pelz, EOTF Preference for LCD Televisions, Proc. of 13th CIC, pp. 228 – 233 (2005).
- MR Rosen and RS Berns, *Invited*, Spectral Reproduction Research for Museums at the Munsell Color Science Laboratory, Proc. NIP, pp. 73 - 77 (2005).
- JL Laird, MR Rosen, ED Montag and JB Pelz, Characterization Methods for LCD Devices with Crosstalk Issues, SID International Symposium Digest of Technical Papers, **36**, pp. 550-554 (2005).
- MR Rosen, Y Zhao, P Rao, DB O’Sullivan and RS Berns, Computer Display as Camera Profiling Target: When “Good Enough” is Good Enough, Proc. AIC Color ‘05, 1219-1222 (2005).
- RS Berns, S. Byrns, F. Casadio, I. Fiedler, C. Gallagher, FH Imai, A Newman, MR Rosen and LA Taplin, Rejuvenating the Appearance of Seurat’s *A Sunday on La Grand Jatte – 1884* Using Color and Imaging Science Techniques – a Simulation, Proc. AIC Color ‘05, 1669-1672 (2005).
- MR Rosen and FS Frey, RIT American Museums Survey on Digital Imaging for Direct Capture of Artwork, Proc. IS&T Archiving Conference, pp. 79–84 (2005).
- P Rao, MR Rosen and RS Berns, Performance Evaluation of Profile Maker Professional 5.0 ICC Profiling Software, MCSL Technical Report (2005).
- MR Rosen and FS Frey, Survey Analysis Report, RIT (2005).
- MR Rosen, EF Hattenberger, and N Ohta, Spectral Redundancy in a Six-Ink Ink Jet Printer, J. Imaging Sci. Technol. **48**, pp. 192-202 (2004).
- MR Rosen, *Invited Keynote*, The RIT American Museums Digital Imaging Benchmark Survey, The Digital Archives Conference on Workflows & Quality Management Proc., 2-5(2004).
- DR Wyble and MR Rosen, Color Management of DLP Projectors, Proc. of 12th CIC, pp. 228-232 (2004).
- MW Derhak and MR Rosen, “Spectral Colorimetry Using LabPQR – An Interim Connection Space,” Proc. of 12th CIC, pp. 246-250 (2004).
- MR Rosen and N Ohta, Spectral Color Processing using an Interim Connection Space, Proc. of 11th CIC, pp. 187-192 (2003).
- EF Hattenberger, MR Rosen and N Ohta, The Impact of Spectrally-Stable Ink Variability on Spectral Color Management, Proc. of 11th CIC, pp. 244-247 (2003).

- MR Rosen, EF Hattenberger and N Ohta, Spectral Redundancy in a Six-Ink Ink-Jet Printer, Proc.of PICS Conference, pp. 236-243 (2003).
- MR Rosen, Navigating the Roadblocks to Spectral Color Reproduction: Data-Efficient Multi-Channel Imaging and Spectral Color Management, Ph.D. Dissertation, RIT (2003).
- MR Rosen, FH Imai, MD Fairchild and N Ohta, Data-Efficient Methods Applied to Unconstrained Spectral Image Capture, J Soc. Imaging Sci Technol J, **65**, pp. 353-362 (2002).
- MR Rosen, A Reference Title for the Multispectral Bookshelf, Spectral Vision, **2**, pp. 8 - 10 (2002).
- MR Rosen, FH Imai, MD Fairchild and N Ohta, Data-Efficient Methods Applied to Spectral Image Capture, (reprinted from Proc. Intern. Congress Imaging Sci.), IS&T The Reporter, **17**, pp. 1-3 (2002).
- MR Rosen, FH Imai, MD Fairchild and N Ohta, Data-Efficient Methods Applied to Spectral Image Capture, Proc. Intern. Congress Imaging Sci, pp. 389-390 (2002).
- MR Rosen, MD Fairchild and N Ohta, An Introduction to Data-Efficient Spectral Imaging, Proc. of 1st European Conference CGIV, pp. 497-502 (2002).
- FH Imai, MR Rosen, and RS Berns, Comparative Study of Metrics for Spectral Match Quality, Proc. of 1st European Conference CGIV, pp. 492-496(2002).
- MR Rosen, LA Taplin, FH Imai, RS Berns, and N Ohta, Answering Hunt's Web Shopping Challenge: Spectral Color Management for a Virtual Swatch, Proc. of 9th CIC, pp. 267-273 (2001).
- MR. Rosen, "Spectral Imaging Session at AIC Color 01," Spectral Vision, **1**, pp. 3-5 (2001).
- FH Imai, S Quan, MR Rosen and RS Berns, Digital camera filter design for colorimetric and spectral accuracy, Proc. of 3rd Intern. Conf. on Multispectral Color Sci.,pp. 13-16 (2001).
- FH Imai, MR Rosen and RS Berns, Multi-spectral imaging of a van Gogh's self-portrait at the National Gallery of Art, Washington, D.C., Proc.of PICS Conf., pp. 185-189 (2001).
- MD Fairchild, MR Rosen and GM Johnson, Spectral and Metameric Color Imaging, MCSL Technical Report (2001).
- MR Rosen, FH Imai, X Jiang and N Ohta, Spectral reproduction from scene to hardcopy II: Image processing, Proc. of SPIE, **4300**, pp. 33-41 (2001).
- FH Imai, MR Rosen, DR Wyble, RS Berns and D Tzeng, Spectral reproduction from scene to hardcopy I: Input and Output, Proc of SPIE, **4306**, pp. 346-357 (2001).

- MR Rosen and FH Imai, A Multispectral Field Trip to the National Gallery of Art, *The MCSL Chroma Zone*, Spring/Summer, p. 2 (2000).
- FH Imai, MR Rosen, RS Berns, N Ohta and N Matsushiro, Preliminary study on spectral image compression, *Proc. of Color Forum Japan*, pp. 67-70 (2000).
- MR Rosen, MD Fairchild, GM Johnson and DR Wyble, Color Management within a spectral image visualization tool, *Proc. of 8th CIC*, pp.75-80 (2000).
- FH Imai, MR Rosen and RS Berns, Comparison of spectrally narrow-band capture versus wide-band with a priori sample analysis for spectral reflectance estimation, *Proc. of 8th CIC*, pp. 234-241 (2000).
- MR Rosen and X. Jiang, "Lippmann 2000: A spectral image database under construction," *Proc. of the International Symposium on Multispectral Imaging and Color Reproduction for Digital Archives*, pp. 117-122 (1999).
- A. Juenger, J. Toker, S. Spitzer, MR Balonon-Rosen, "Characterization of Still Images from a Progressive Scan HDTV Camera," *Proc. of IS&T's 50th Annual Conference*, pp. 344-347 (1997).
- J. Thornton, YJ Lee, MR Balonon-Rosen, "The Apple ColorSync Printer Profile Model and its Optimization," *Proc. of IS&T's 46th Annual Conference*, pp. 147-150 (1993).
- MR Balonon-Rosen, "An Uncertainty Analysis of a Color Tolerance Database," Masters Thesis, RIT(1993).
- MR Balonon-Rosen, S. Bokshorn, "Device-Independent Color from the Polaroid Digital Scanner", *Proc. of IS&T's 45th Annual Conference*, pp. 423-425 (1992).
- RS Berns, D Alman, L. Reniff, G. Snyder, MR Balonon-Rosen, "Visual Determination of Suprathreshold Color-Difference Tolerances Using Probit Analysis," *Color Research and Applications*, **16**, pp. 297-316 (1991).
- C. Salvaggio, MR Rosen, E. Kraus, J. Warnick and J. Schott, "Techniques for digital image processing and display with emphasis on color concepts, prepared for Digital Equipment Corporation", *RIT/DIRS Report 88/89-63-118*, Rochester, NY, August (1988).
- MR Rosen, J. Reilly, D. Koop, "Interimage Effects in Dark-Fading of Professional Motion Picture Color Negative Film," *Proc. of SPSE's 41st Annual Conference*, pp. 18-20 (1988).