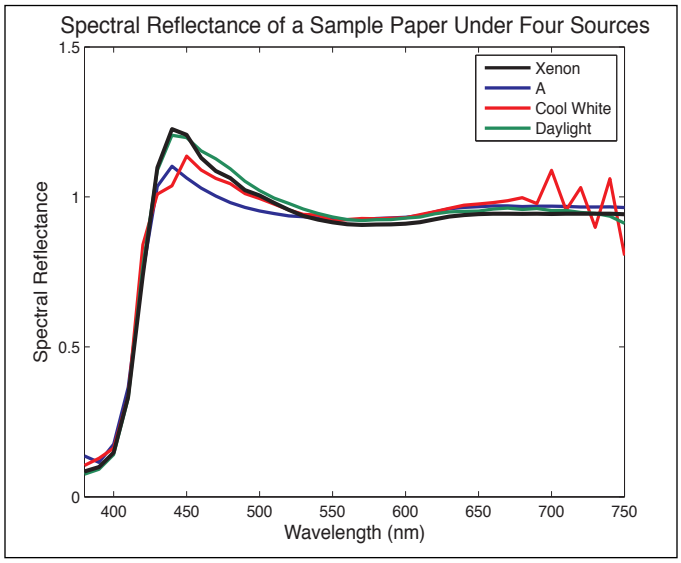
RIT Munsell Color Science Laboratory's Newsletter

THE CHROMAZONE

spring 2010

Research Article: Improved Fluorescent Estimation Technique

The complete characterization of fluorescent excitation and emission is a tedious and difficult process. The use of a standard spectrophotometer is insufficient because the detector cannot determine if a given photon is the result of reflection or fluoresced emission. This paper proposed a new method for incorporating the UV content of a source into spectral radiance measurements from a traditional spectrophotometer. After the analysis, the spectral power distribution of any source can be virtually imposed upon the paper to predict its spectral reflectance under any arbitrary illuminant. This will enable for a direct comparison between the colorimetric coordinates measured by a device to those measured in a light booth or other viewing environment. The figure shows the comparison between estimated and measured spectral reflectance.



This work was presented by MCSL graduate student Brian Gamm at the 2010 Annual Conference of the Technical Association of the Graphic Arts in San Diego. The title of his paper was "Estimating a Donaldson Matrix for Commercial Papers Containing Optical Brightening Agent."

"Although I worked in the RIT School of Print Media for two years and became accustomed to the language and culture of printing, after spending two quarters at MCSL, I quickly got used to the research based mentality of the lab. The TAGA conference was primarily focused on printing and many of the presentations were based upon research in areas such as process control, improving workflow efficiency and product quality, and other industrial and practical applications. I found the conference very interesting and was enlightened to the industrial and practical use of color science in the printing industry."

Ever wonder why leaves are green?

See <*www.cis.rit.edu/fairchild/WhyIsColor/Questions/2-1.html*>.

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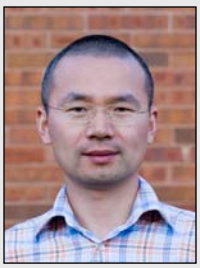
Introducing ...

Farhad Abed,
Color Science Ph.D. Student

I received my BS in textile engineering from Isfahan University of Technology in 2002. There was the first place I got involved and interested in color science. Accordingly, I decided to continue my study in textile engineering and in the specific field of color science and color technology. I received my MS from the same university with the supervision of Prof. Amirshahi and in the field of color management. After my graduation in 2005, I was hired as a research faculty in Institute of colorants, paint and coatings for about four years. I started working on different aspects of color and mainly multispectral measurement and color reproduction. Participating in AIC conference in China and meeting Roy and Rod encouraged me to follow up my PhD program more seriously. Certainly, attending the MCSL PhD program is a valuable opportunity for me to fulfill my study in the field of color science. Multispectral measurement and color reproduction were my previous fields of study; however, there are vast varieties of topics I can choose to work on in the future.



Tongbo Chen,
Post-Doctoral Fellow

I was a research associate at Max-Planck-Institut Informatik under the advising of Hendrik P. A. Lensch, Michael Goesele, and Hans-Peter Seidel, and received PhD from Saarland University in 2008. My thesis work is about new 3D scanning techniques for complex scenes, such as surfaces with fine-scale geometric details, translucent objects, low-albedo objects, glossy objects, scenes with interreflection, and discontinuous scenes. From February 2009 to January 2010, I was a postdoctoral research associate at the Graphics Laboratory, Institute for Creative Technologies, University of Southern California. The main research was on polarimetry, designing the next light stage, 3D imaging, computational photography, and image-based modeling/rendering/relighting. On February 2010, I joined MSCL and started the work on image-based 3D modeling of fine art, especially art paintings. The goal of the research is to develop advanced methods for creating rich digital representations of paintings and other cultural heritage objects that can serve as surrogates for archiving, analysis, restoration, reproduction, and scholarship. The fellowship is sponsored by the Andrew W. Mellon Foundation.

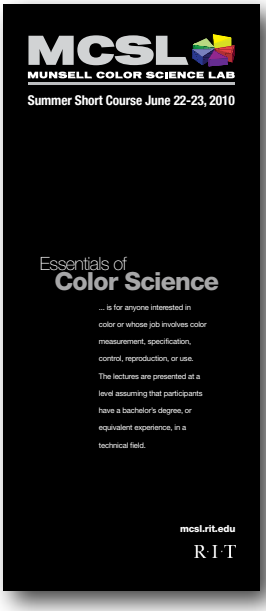
Alumni News

• **Nathan Moroney (Color Science MS 1993, Principle Scientist, HP)** was featured in the 2010 HP Labs Annual Report. See page 13: *<www.hpl.hp.com/news/2010/jan-mar/pdf/HPL_AnnualReport_2009_ScreenRes.pdf>*.

• **Jason Gibson (Color Science MS 2002, Principle, Impression Metrics)** has been awarded a contract for Color Science and Psychophysics for a Sydney, Australia firm. This will involve an extended stay down under, and then occasional trips around the globe, including Dublin, Sydney, and Singapore.

Nathan in the HP Labs report!

• Three recent MCSL students are gainfully employed at ITT in Rochester NY. Alumni **Stacey Casella (Color Science MS 2008)** and **Erin Fredericks (Imaging Science MS 2009**), along with part-time graduate student **Mark Updegraff** all report enjoyable, fulfilling (and altogether secret) projects somehow involving color science.



MCSL Summer Short Course 2010: Essentials of Color Science

We will again hold our summer short course. This year we are offering a two day course on June 22-23, 2010.

There is still time to register.

See ***<mcsl.rit.edu/outreach/courses.php>*** for content and registration details.