R•I•T College of Science

Chester F. Carlson Center for IMAGING SCIENCE

Seminar Series

N-Color Gamut Construction and Topology

Harold Boll

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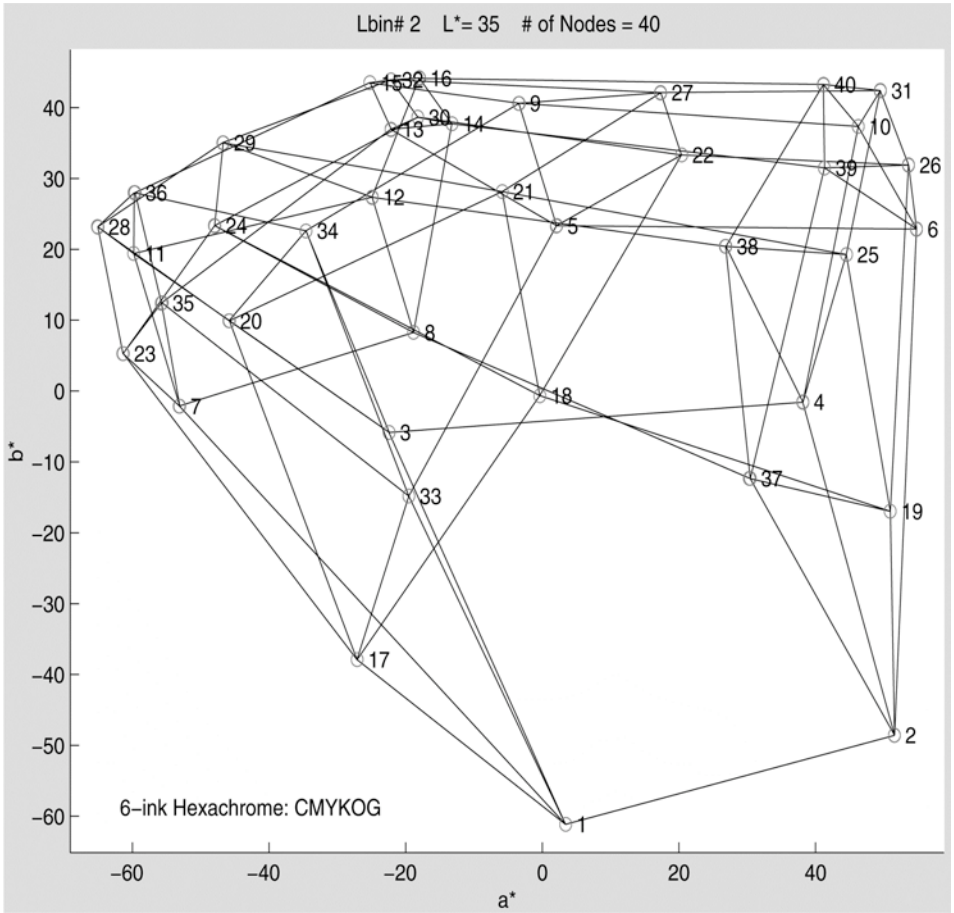

4pm, Wed, May 16, 2007

Auditorium of the Center for Imaging Science

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Abstract
The determination of the color gamut of a printing system is an important step in high quality color image reproduction. It enables implementation of Gamut Mapping Algorithms which allow out-of-gamut colors to be represented by in-gamut colors. It is a crucial component in soft proofing wherein the colors of a hardcopy system are simulated on a calibrated monitor. As the number of primary inks are extended beyond the traditional CMYK to say CMYKRGB, the task of computing a gamut becomes ever more challenging due to the inherent complexity of additional ink interactions. This talk will provide a description of a generalized gamut construct algorithm that efficiently and accurately computes a gamut for any N-color system where N is typically between 3 and 7.

The algorithm has the following desirable features:

- Applicable to any N-Ink System
- Makes no physically based assumptions regarding the interaction of inks
- Accurate Gamut depiction with a minimally optimal number of points
- Requires only a Forward Model which relates ink to color
- Yields printable inkings for gamut boundary colors
- An aesthetically elegant algorithm by dint of its simplicity

Speaker Bio
Dr. Boll received a B.A. in Chemistry at Brandeis University and went on to graduate school at Tufts University where he received a doctorate in Physical Chemistry studying non-aqueous chemical kinetics. Upon graduation he took a position as an applications programmer with Bruker Instruments, a company which built complex chemical instrumentation like FT NMR and IR systems. His next position was with Eikonix Corporation where he became a key scientific programmer in the development of the Designmaster 8000, the first all digital color electronic pre-press system which produced color separation films for the printing industry. This system is widely recognized as the first all digital device whose underlying technology was based on device independent color and which permitted softcopy proofing (WYSYWIG being the acronym in vogue at the time). Soon after joining, Kodak acquired the company and he became a member of the Advanced Development Group which developed the Kodak Color Management System. After more than 20 yrs at Kodak, he went on to Creo for a number of years and is currently a Color Scientist for the color copier division of Toshiba Corporation.