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College of Science

Chester F. Carlson

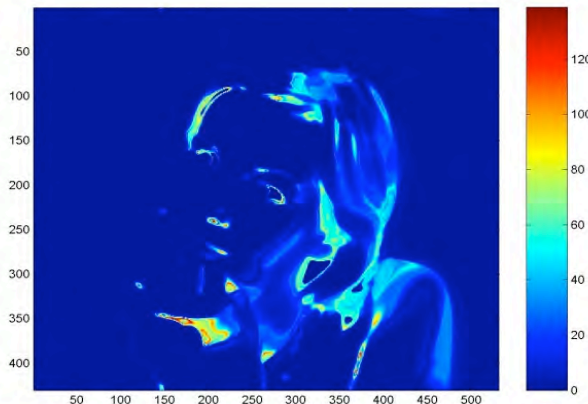
Center for **IMAGING** SCIENCE

Seminar Series

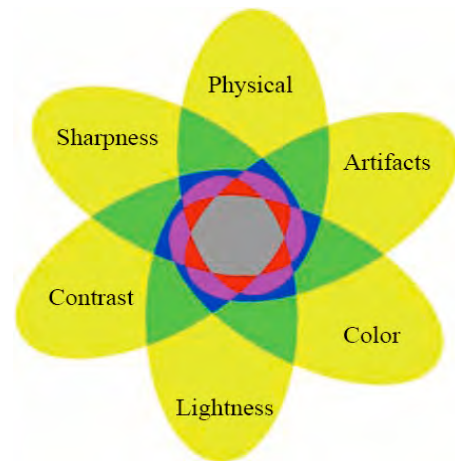
Better Pictures from Better Measurements of Image Quality

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**Example of an Image Difference Map
computed using s-CIELAB**



**Venn ellipse diagram illustrating
different print quality attributes
and their relationships**

To measure how an image has been distorted from an original state, in a way corresponding to human perception, is a key goal of image quality research. Full-reference image quality metrics have been proposed but they have not been good enough due to limited knowledge of the human visual system. Here we present recent contributions such as new image difference metrics based on bilateral filtering, hue angle weighting, the contrast sensitivity function, saliency maps, and eye tracking; a new measure of perceived contrast in complex images; a new image quality model for color prints; and an algorithm for halftone artifact detection. We also discuss how image quality metrics can be used to make better pictures by optimizing algorithms for image representation and reproduction.

4pm, Wed, April 15, 2009

Auditorium of the Center for Imaging Science

www.cis.rit.edu/seminar

for up-to-date seminar schedule, video archives and abstracts.