



Gjøvik University College
(Soon to be part of NTNU)

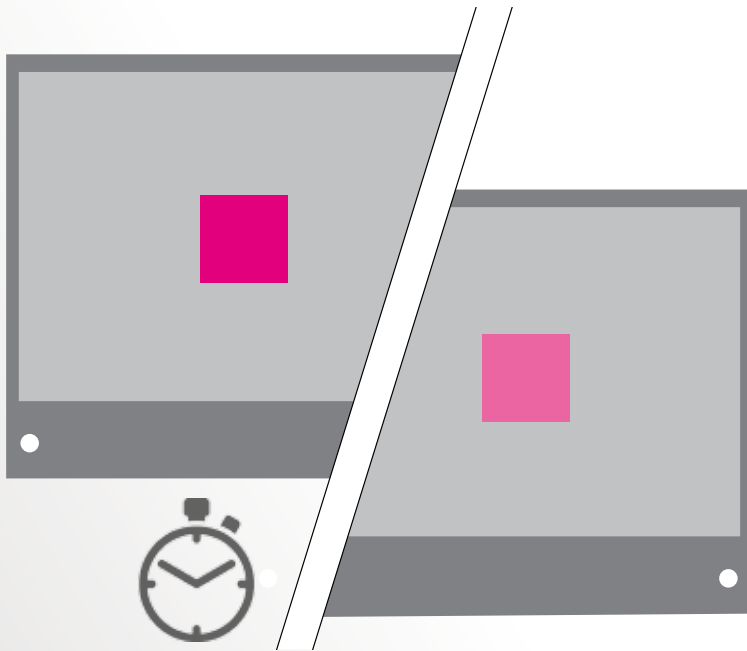
A model of common colour appearance
PhD 2015-2018

Main areas of interest

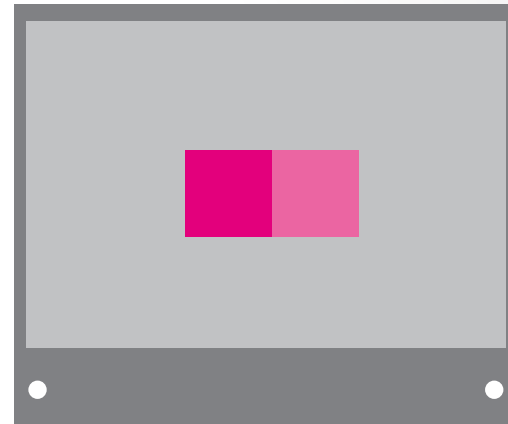
- *Realworld viewing conditions and psychophysical viewing modes*
- *(Mixed) Adaptation to different substrates*
- *Measure of difference and tolerances based on visual dis-similarity*
- *Image reproduction and gamut mapping constraints*
- *Predictive model of common colour appearance*

Viewing Modes

Classic experimental setups

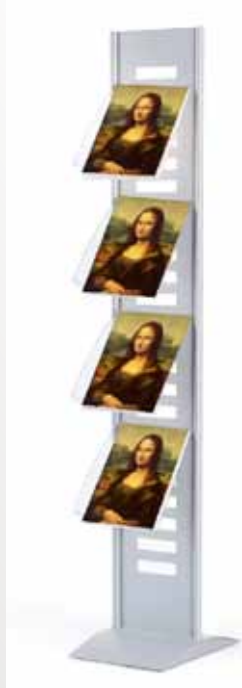


Sequential Viewing



Simultaneous Viewing
with edge contact

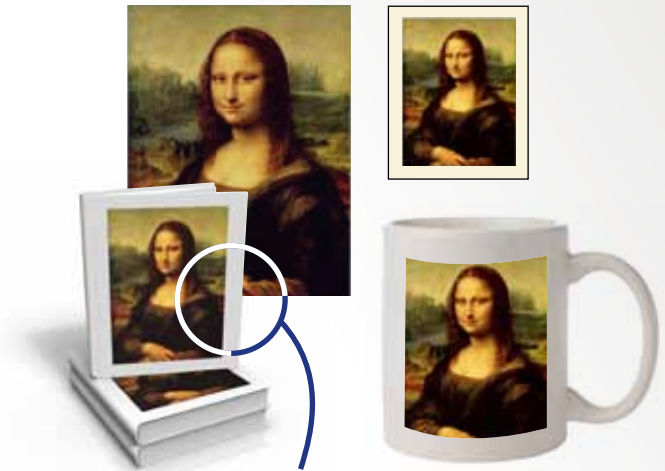
Viewing Modes – Do they adequately describe real-world conditions, particularly for retargeting & repurposing?



- *Colorimetrically consistent reproductions*



- *Pleasing reproduction, but unrelated to another reproduction*



How important is the proximity of reproductions?

- *Related reproductions (but different substrates, colorants, gamuts, etc.)*

Retargeting vs Repurposing

- *Colorimetric or Media-Relative match to a reference/proof*
 - *Process control driven product (aim values and tolerances)*
 - *Expected to be viewed side-by-side (under the same viewing conditions)*
- *Image reproduction not constrained by a reference*
 - *Optimised for each output device and/or viewing condition*
 - *Probably viewed in absence of a reference*

Common Colour Appearance Model

- *Needs to model appearance differences between reference and reproduction system(s) (background [unprinted paper] and adjacent colours, substrate differences, etc.)*
- *Develop tolerances for different viewing modes*
- *Needs to model known appearance effects of different viewing conditions (light sources, illuminance levels, background/surround, etc.)*
- *Predict a re-rendering and constrained gamut mapping that gives an optimal common colour appearance*