



Introductory and Intermediate Users Workshop

# PREPARING DIGITAL IMAGES FOR PUBLICATION



UCLA Molecular Biology Interdepartmental Graduate Program  
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Michael Hepp  
Technology Strategist  
The Sheridan Group Journals



# Topics

General Submission Guidelines for the following journals:

Nature Publishing Group

Cell Press

Genetics

Journal of Cell Biology

Journal of Experimental Medicine

Journal of General Physiology

Journal of Lipid Research

Biophysical Journal

The Plant Cell

Plant Physiology

American Journal of Botany

Journal of Neuroscience



# Topics

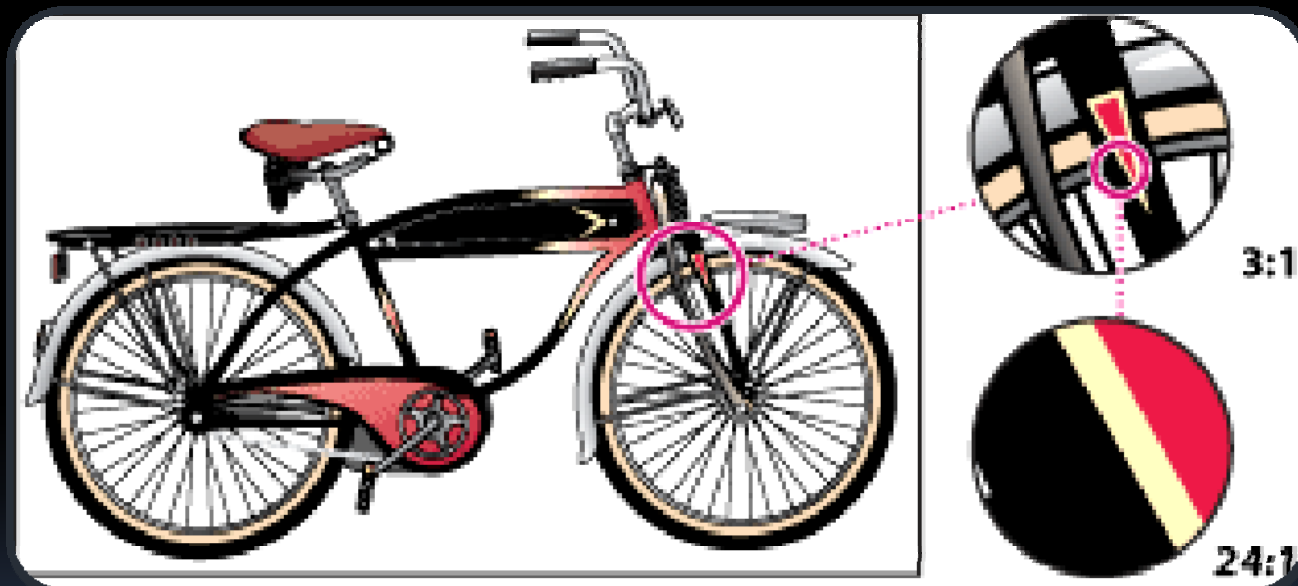
Imaging Foundations

RGB Image Submission and Color Management

A Few Helpful Tips



# Vector Images





# Vector Images


- Vector graphics are made up of lines and curves called *vectors*.
- Created in drawing programs such as Illustrator, Freehand, CorelDraw, Word, PowerPoint.
- Vector graphics are *resolution-independent*
- Fonts need to be embedded or converted to outlines or paths. Lines minimum of .25 pts.

# Raster Images





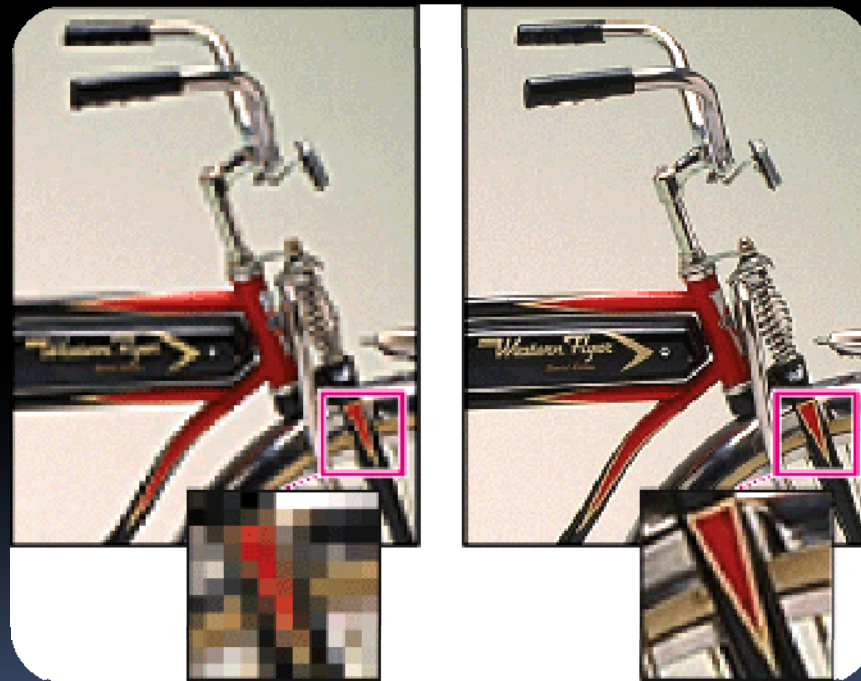
# Raster Images

- Raster images are made up of pixels.
  - Created by capture devices such as digital cameras or processed in image editing programs such as Photoshop.
  - Raster images are *resolution dependent*.
  - Text and lines are raster elements and are not editable
- 

# Resolution

72 ppi

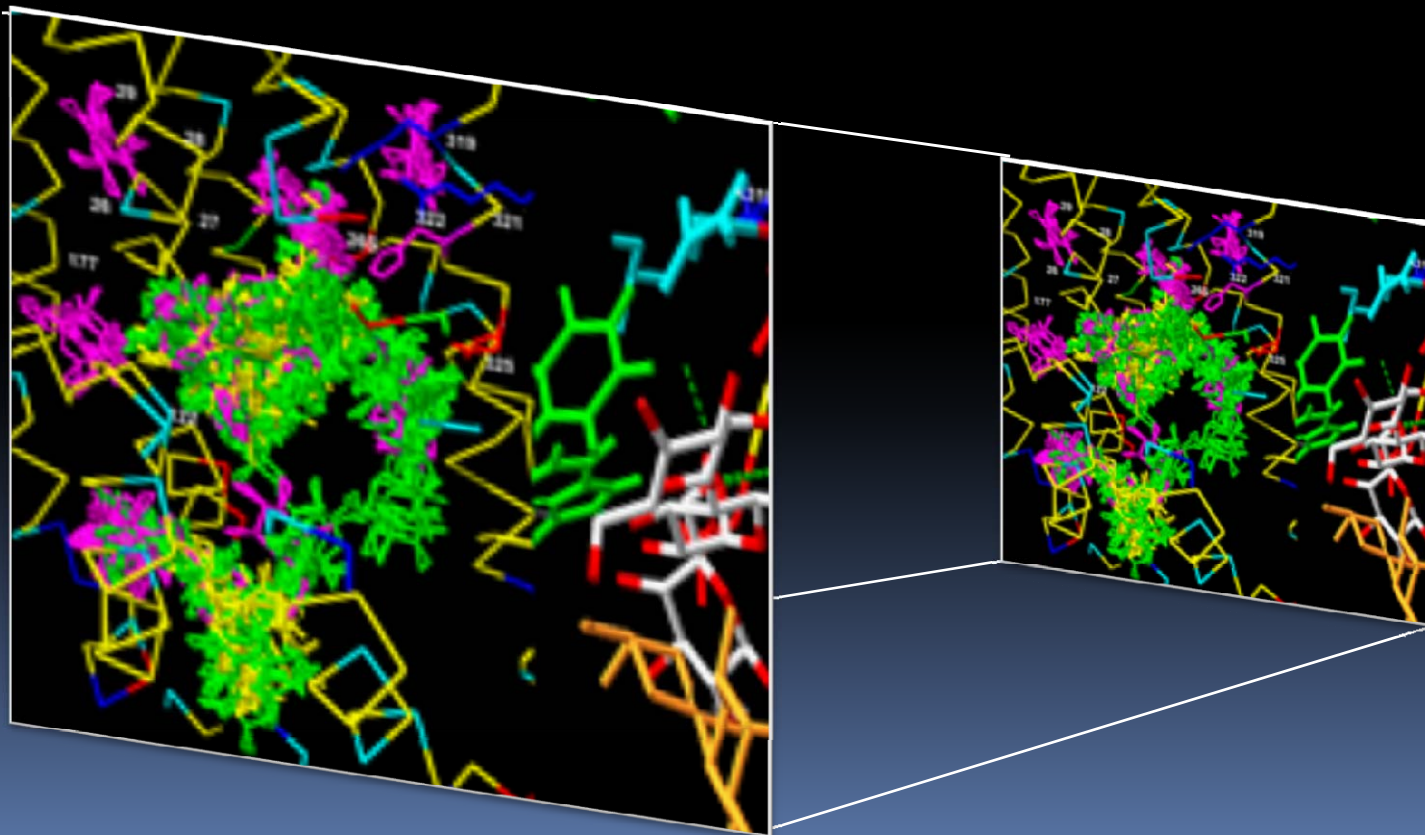
300 ppi





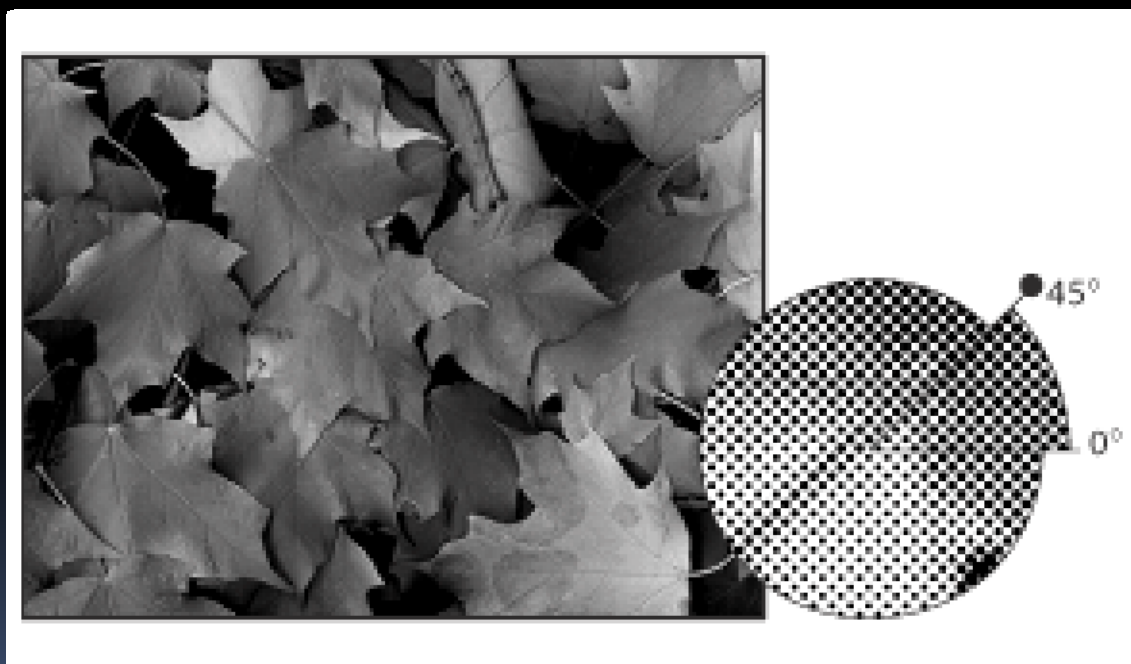
# Effective Resolution

- Actual resolution factored for scaling



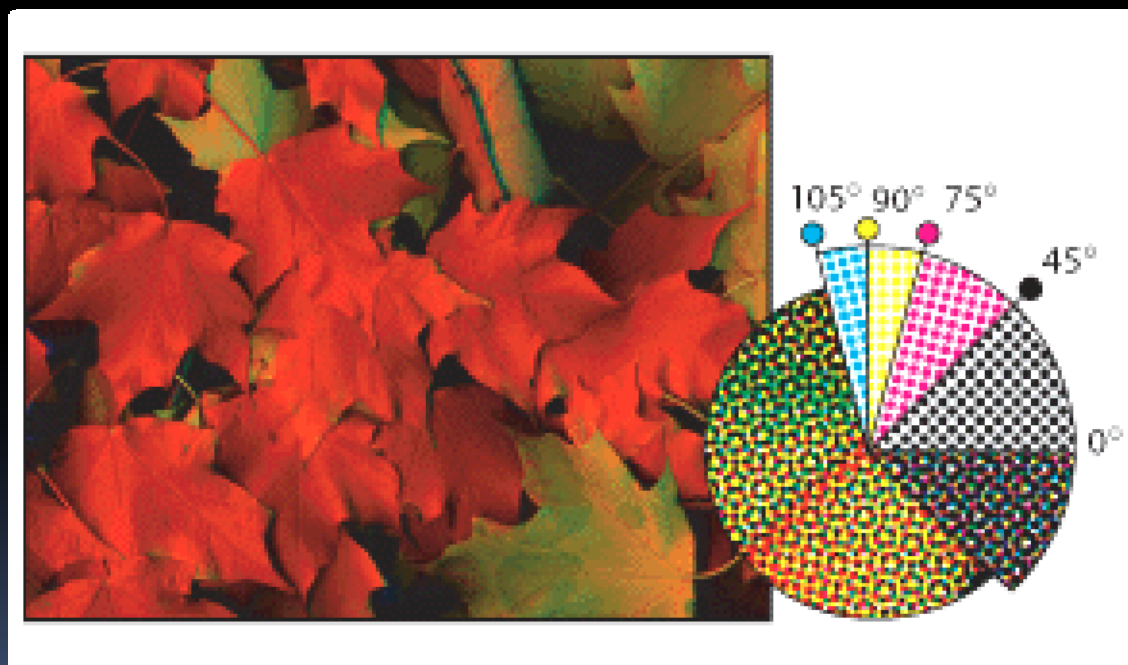
# Printing Process

- Halftone Screening



# Printing Process

- Halftone Screening






# Types of Images

Line Art  
Halftones  
Combinations

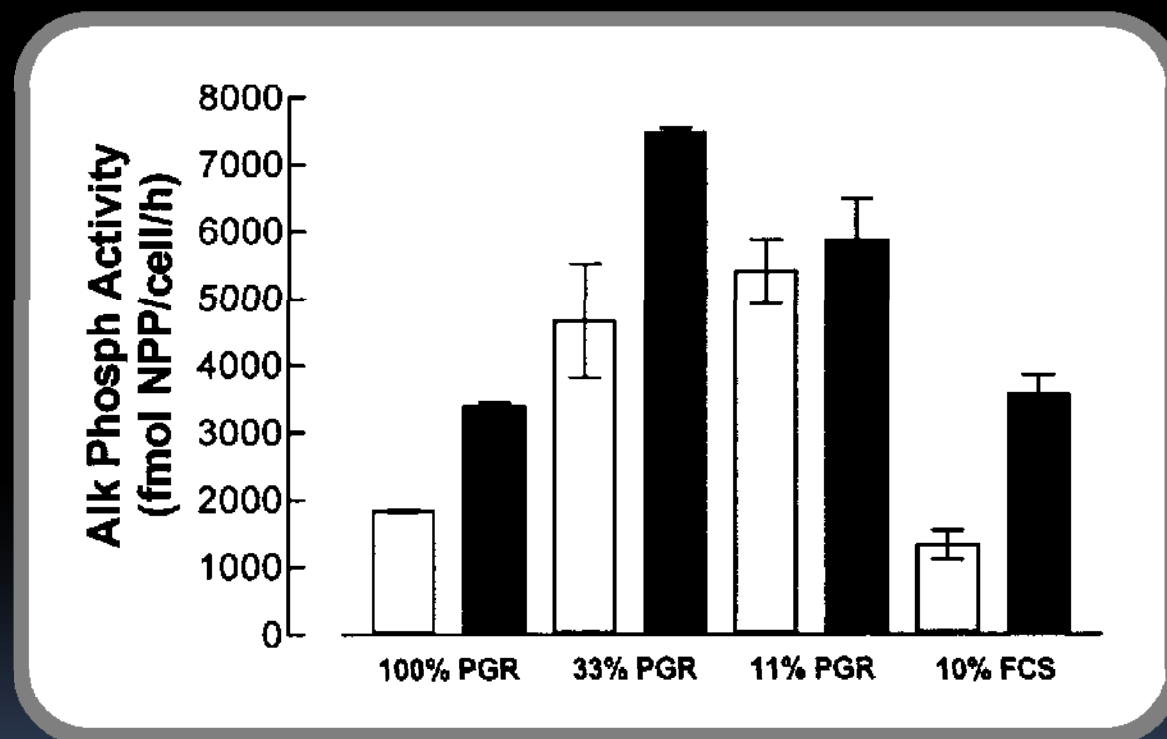




# Line Art Images (Bitmap)

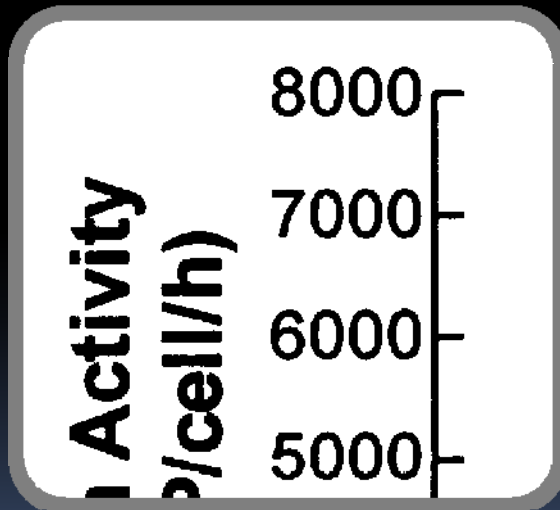
- Images comprised of black and white elements only
  - 1000 ppi minimum resolution
  - 1200 ppi preferred for thin line reproduction
- 

# Line Art Images (Bitmap)

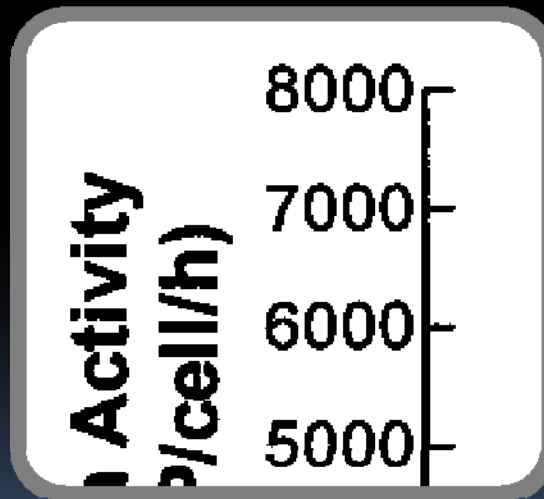


# Line Art Images (Bitmap)

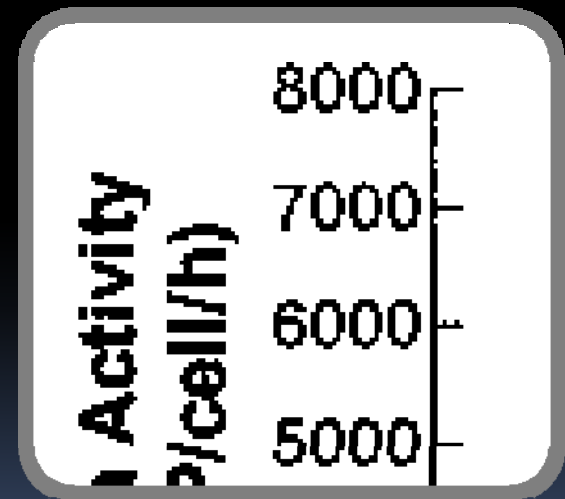
1000 ppi



600 ppi



300 ppi





# Halftone

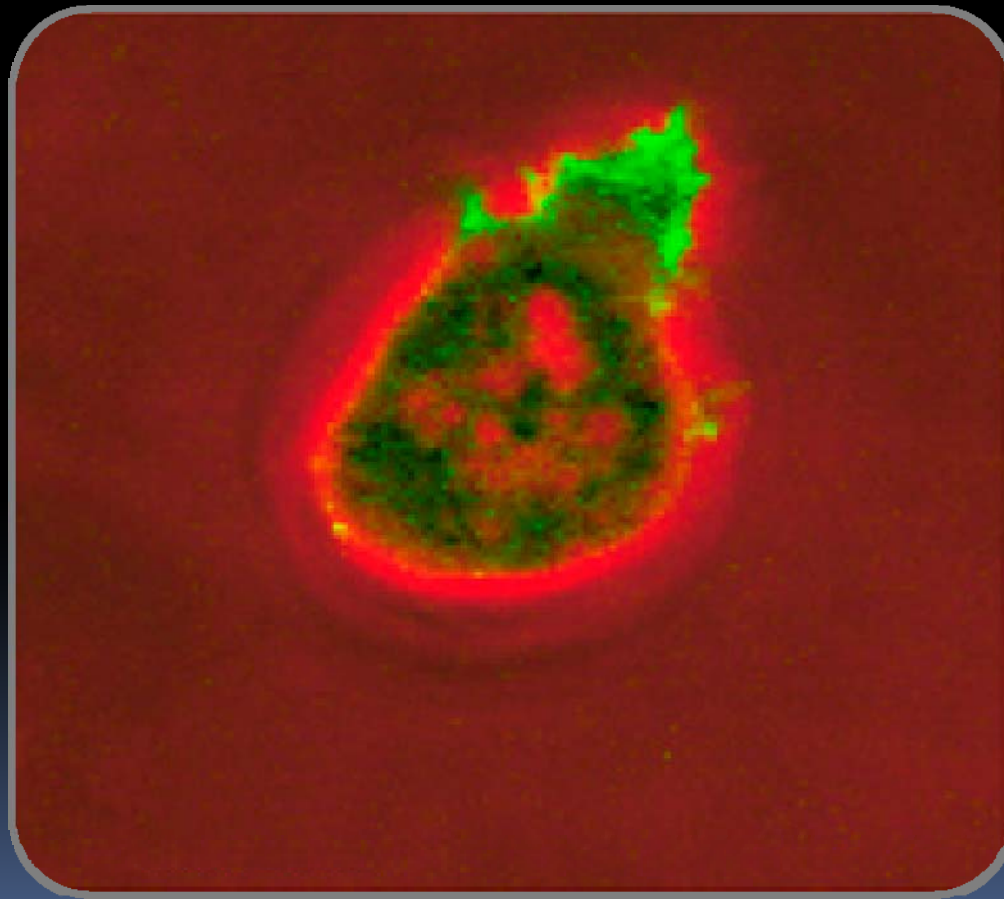
- Image only
- Grayscale or color
- 300 ppi minimum resolution








# Halftone

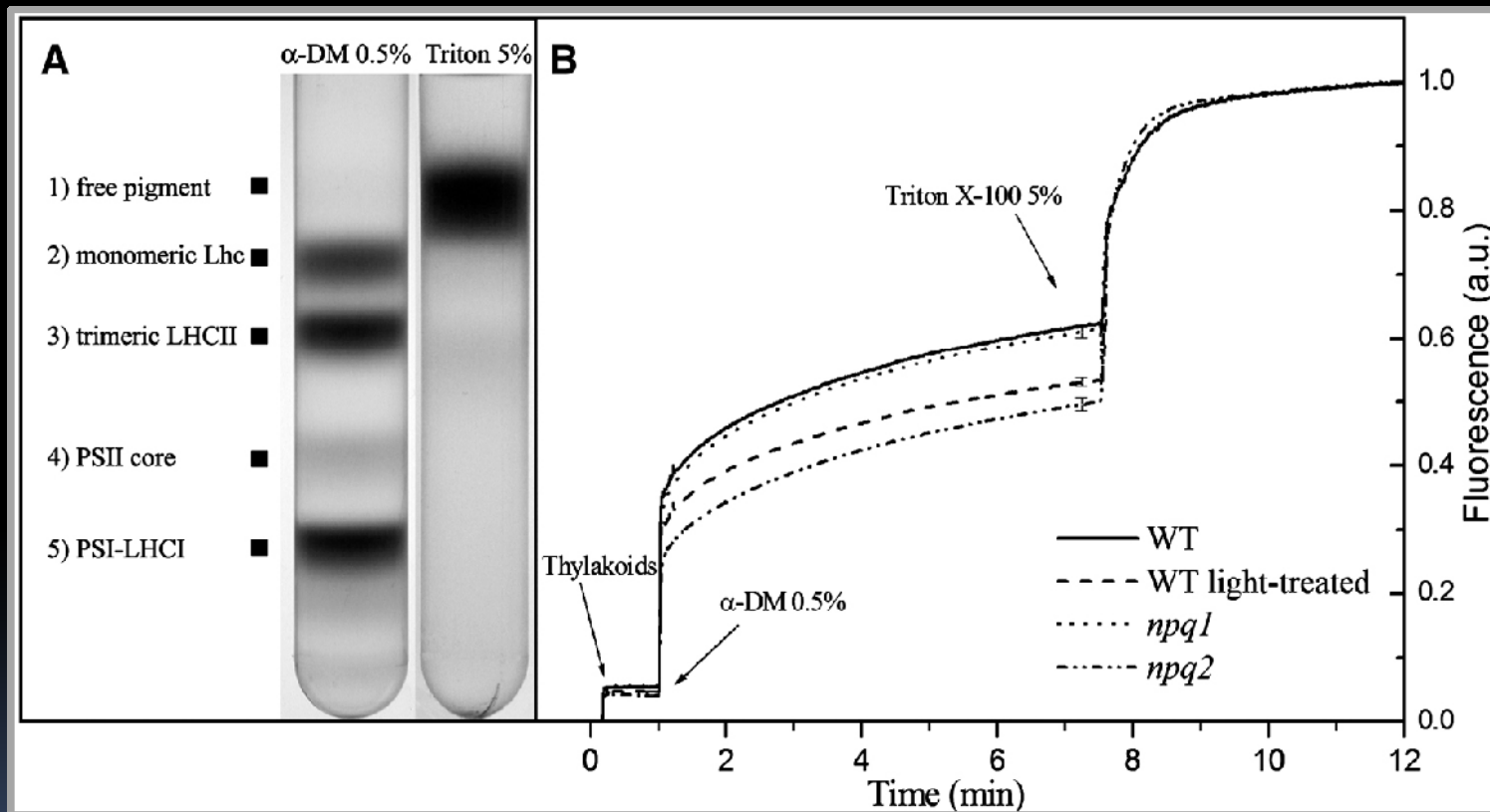




# Combination (Combo)

- Halftone and line art combined
  - Grayscale or color
  - 600 ppi minimum resolution
  - 1000 -1200 ppi maximum
- 

# Combination (Combo)





# File formats

TIFF – Tagged Image File Format

EPS – Encapsulated PostScript

JPEG – Joint Photographic Experts Group

GIF – Graphics Interchange Format

PDF – Portable Document Format


MS OFFICE – DOC, PPT, XLS



# Recommendations..

- TIFF
- EPS

Also acceptable, if prepared correctly:

- 
- JPEG (compression)
  - PDF (Distiller Settings)
  - \*Microsoft Office (Guidelines and settings)

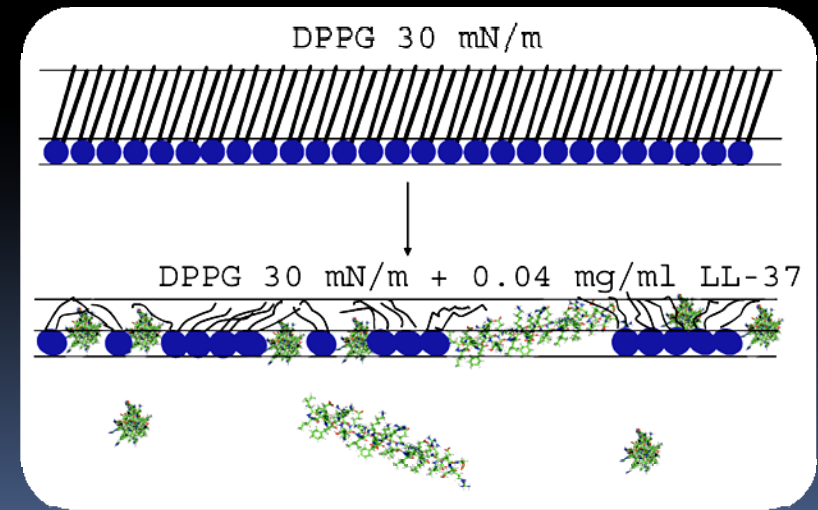
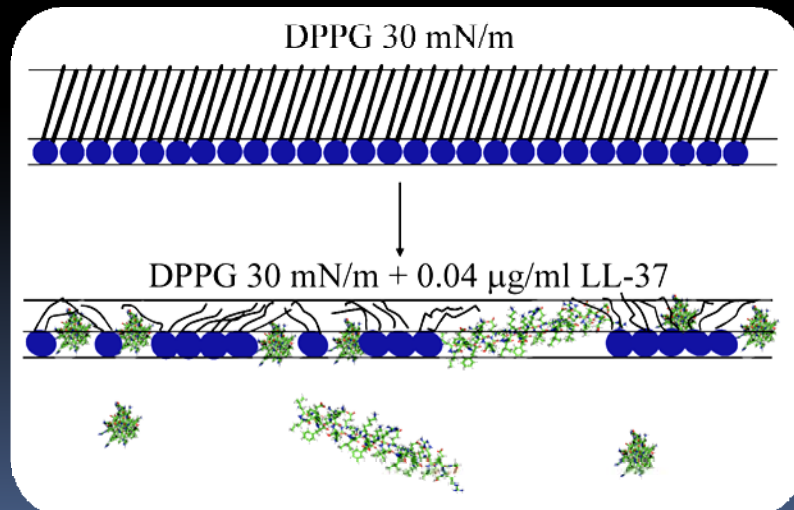


# Fonts and font embedding

- Use standard font families when labeling images and be consistent throughout your images
  - Helvetica or Ariel
  - Times Roman
  - Symbol
  - Mathematical Pi
  - European Pi

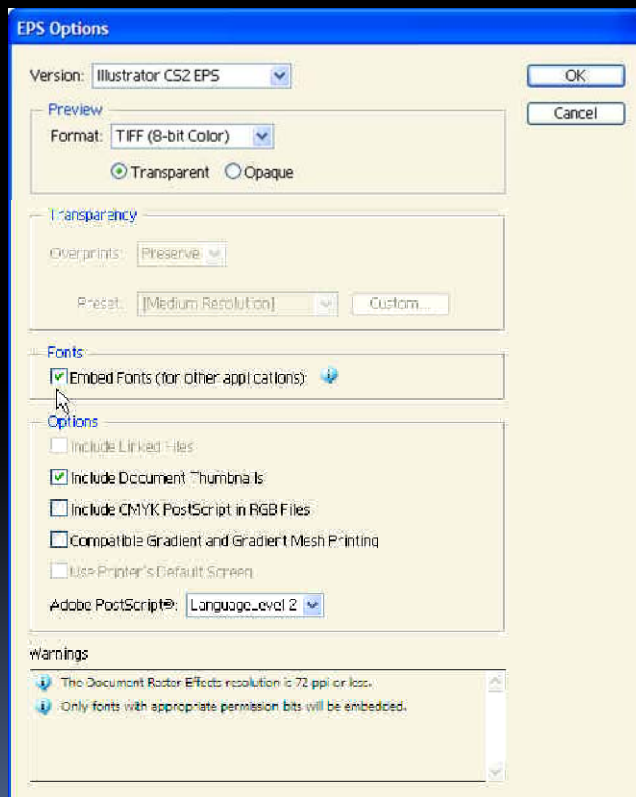
# Font embedding

- When submitting vector files either embed the fonts (when possible) or convert to outlines



# Font embedding

- Adobe Illustrator

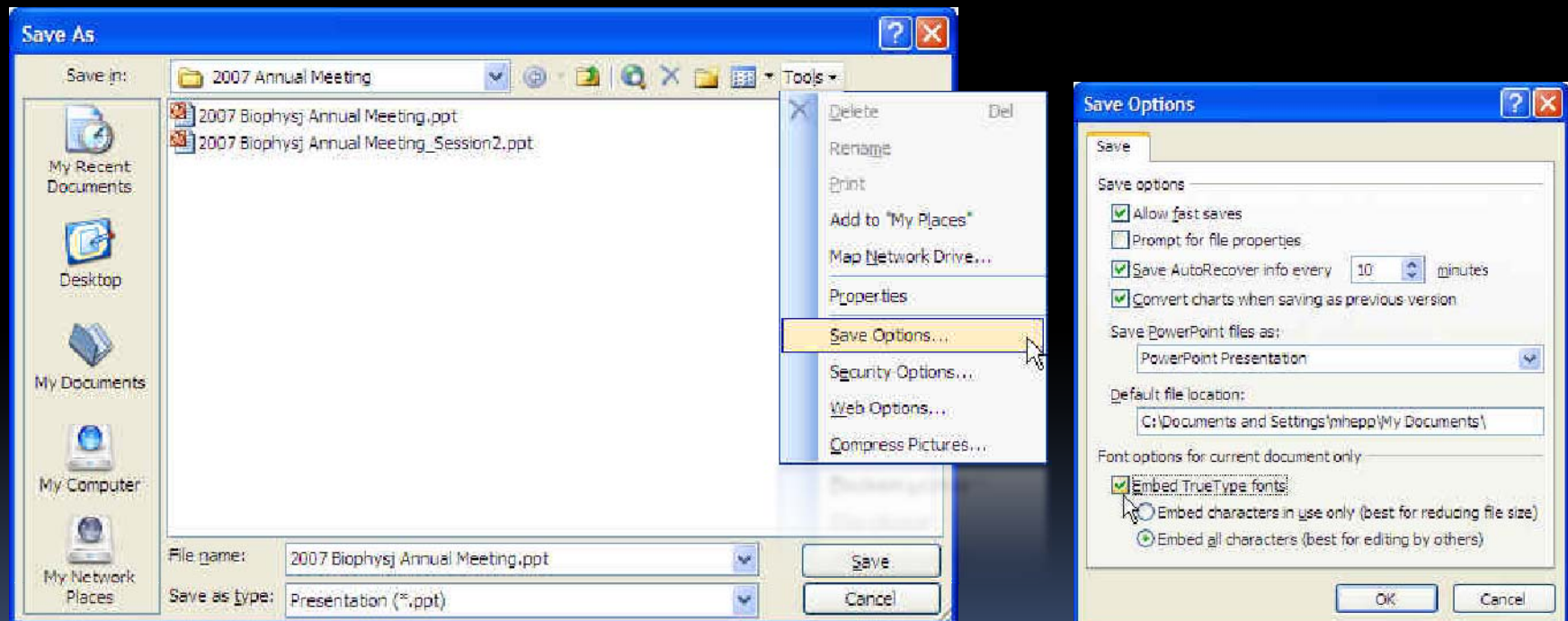


Embed Fonts (for other applications) ⓘ



# Font embedding

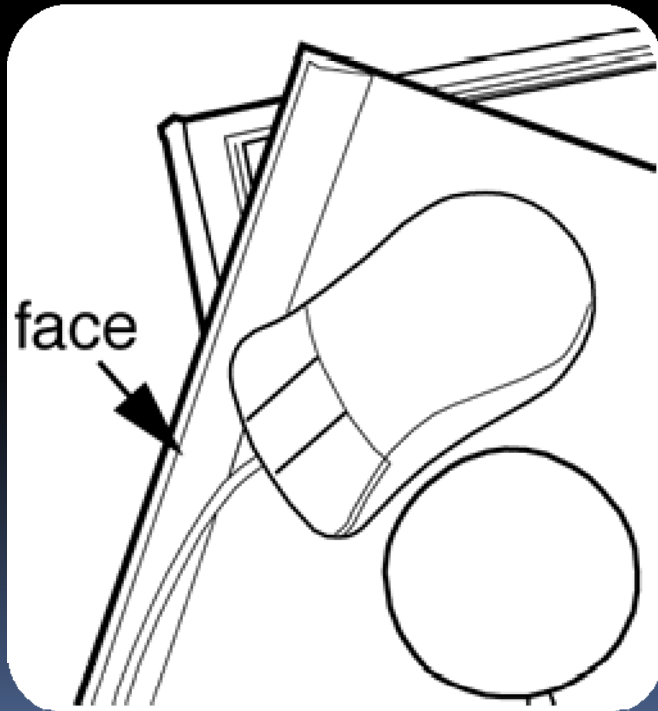
- Microsoft PowerPoint



# File compression

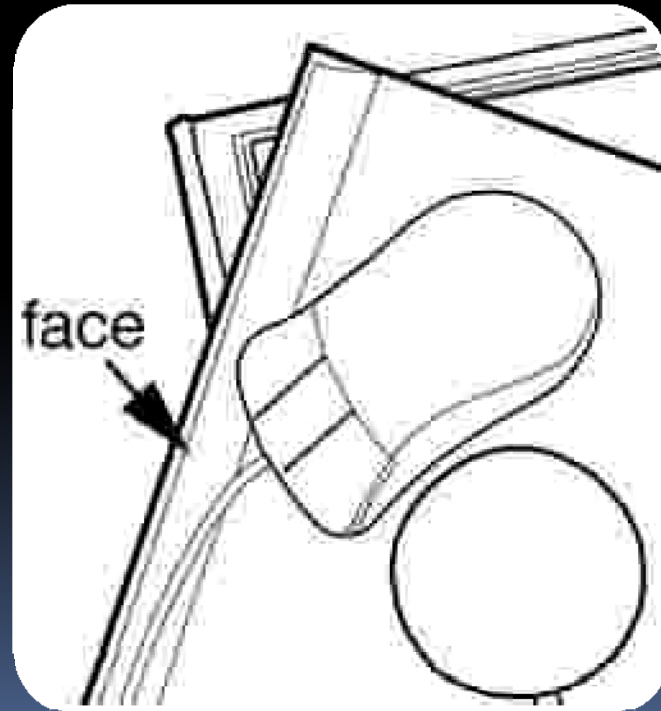
## Lossless Compression

- LZW, ZIP, CCITT G4



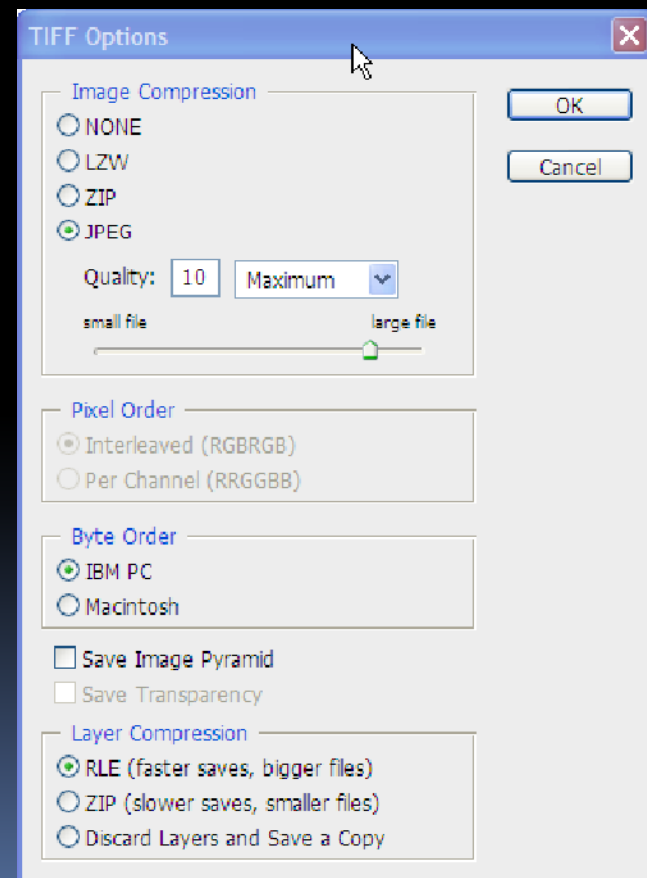
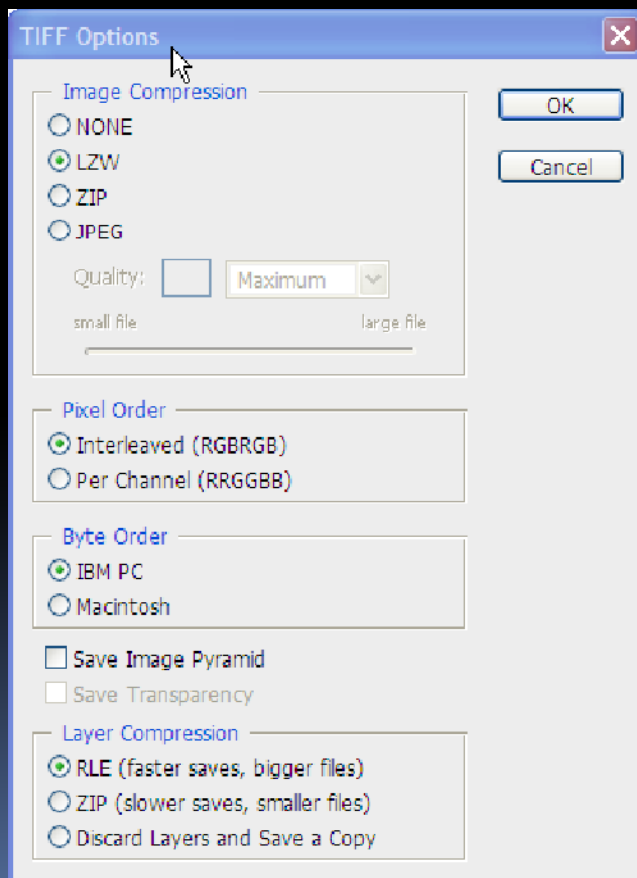
## Lossy Compression

- JPEG



# File compression

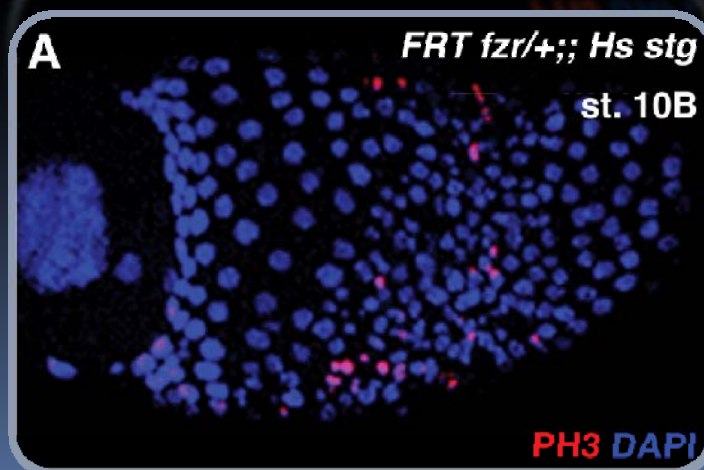
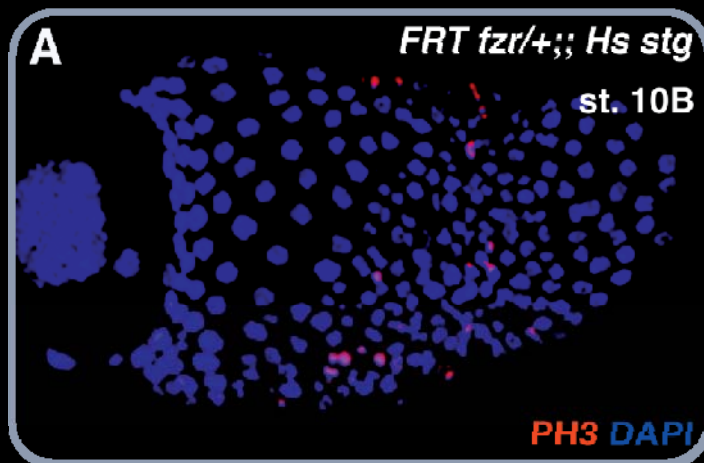
- Lossless techniques
- JPEG compression



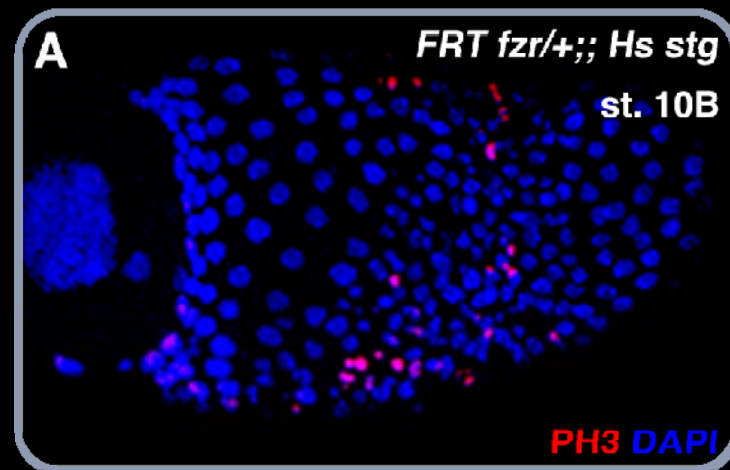


# Color Mode

## Author Supplied CMYK



## Author Supplied RGB



## Sheridan Converted CMYK

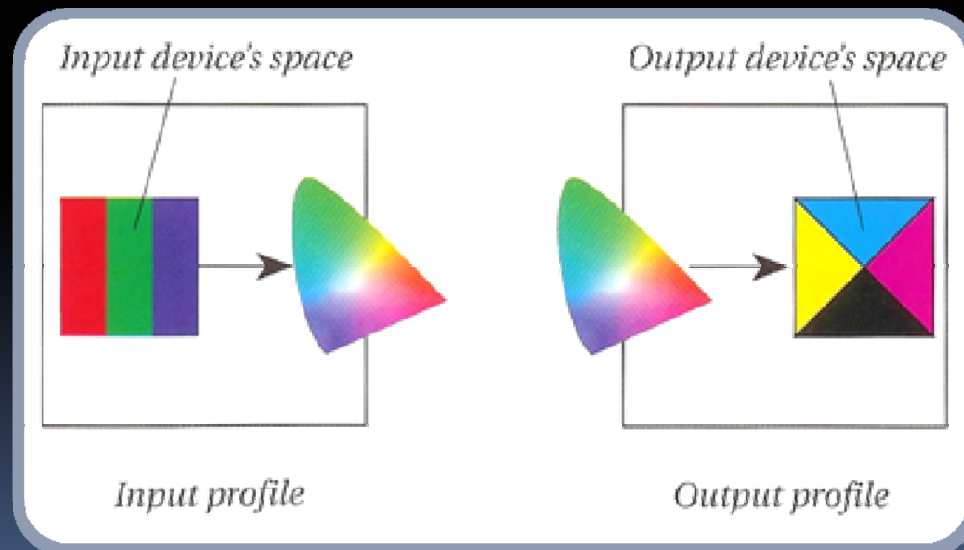


# RGB Submission

- Most journals requires the submission of images in RGB color mode
- Easier for authors
- Color managed conversion to CMYK
- Opportunity for full gamut RGB online

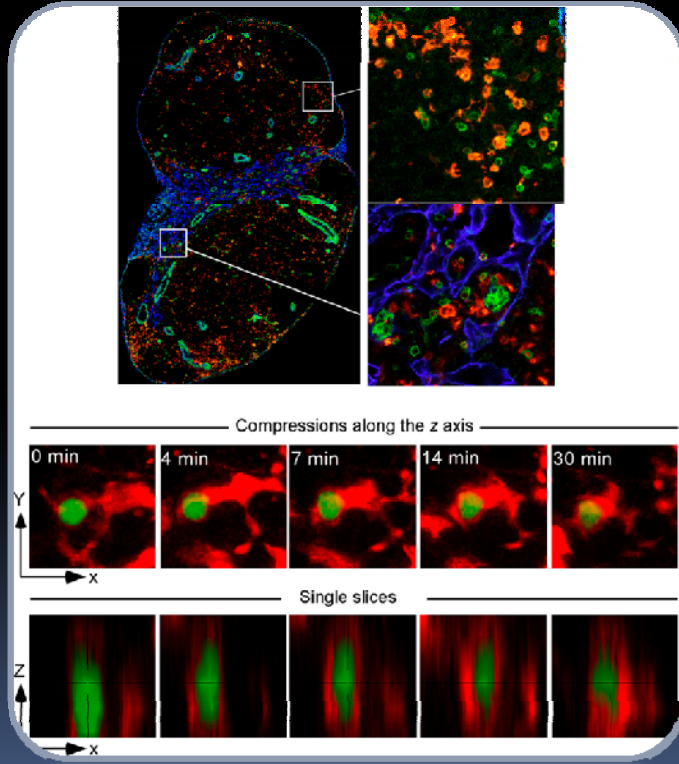
# ICC Profiles

- Describe a device's ability to render color
- Necessary for accurate conversion to CMYK

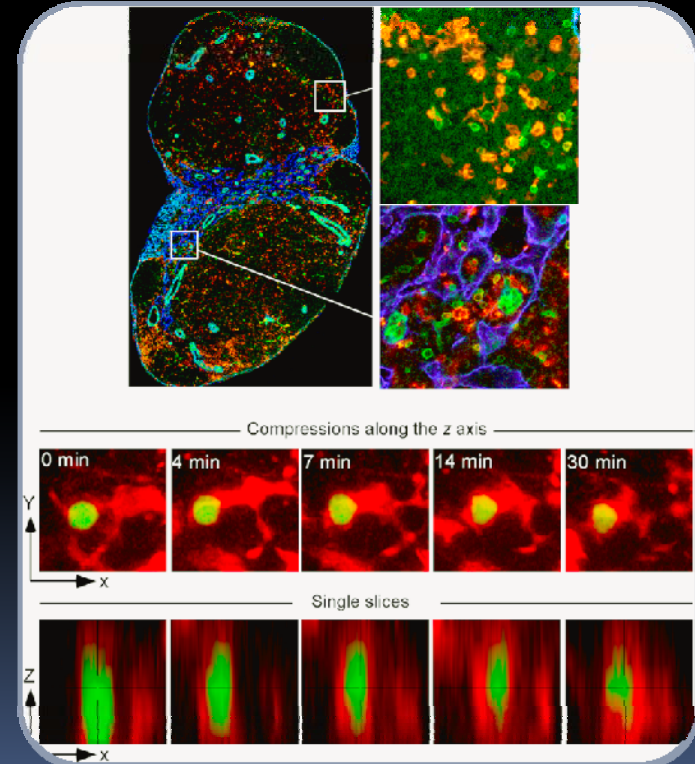


# ICC profiles

- Adobe

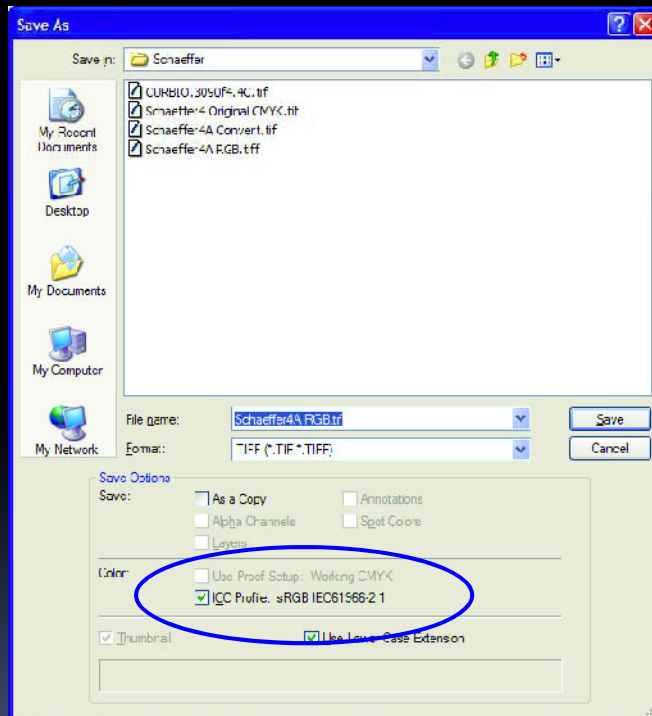


- Ricoh

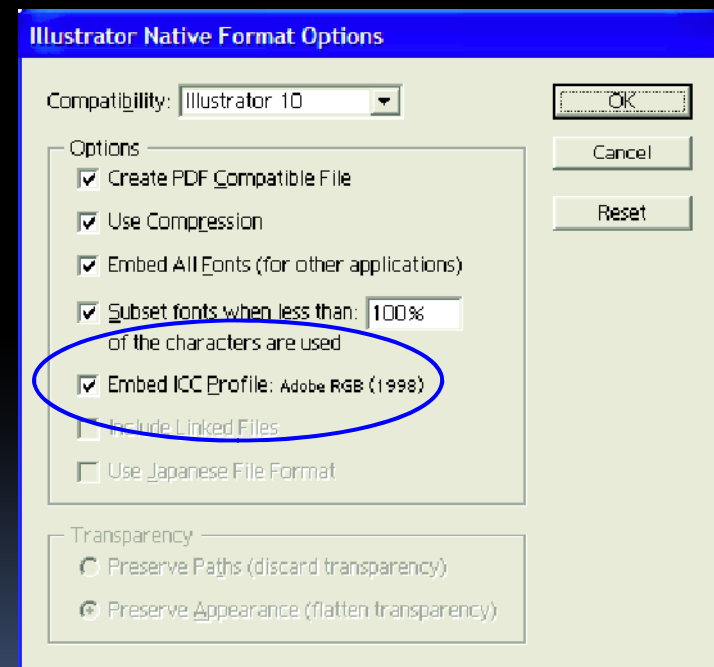


# Embedding ICC profiles

- Adobe Photoshop



- Adobe Illustrator







# Preparation Tips...



# Find balance of quality/size

## IMAGE SIZE: 3" x 4" 600 ppi

- RGB EPS 24.7MB
- RGB TIFF with NO compression 8.9MB
- RGB TIFF with LZW 3.3MB
- RGB JPEG, Quality 8 354 KB

## IMAGE SIZE: 3" x 4" 300 ppi

- RGB TIFF with LZW 1.6MB

# Print quality digital photos

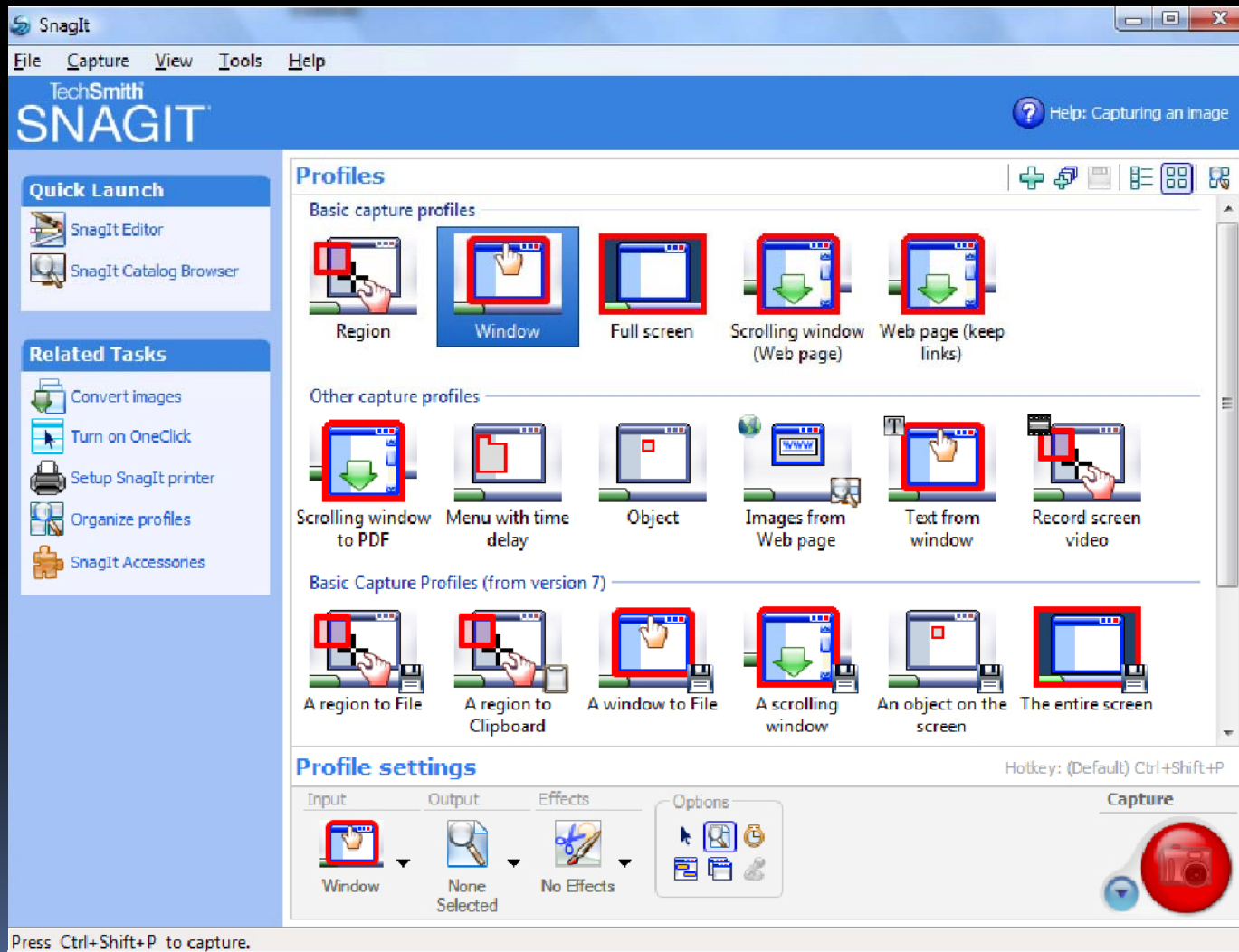
- Choose settings that maximize quality
- JPEG, TIFF, and RAW formats
- JPEG quality settings = compression
- Balance quality with file size
- RAW format is the new digital negative
- Capture in RAW, convert to TIFF

# Alternate applications

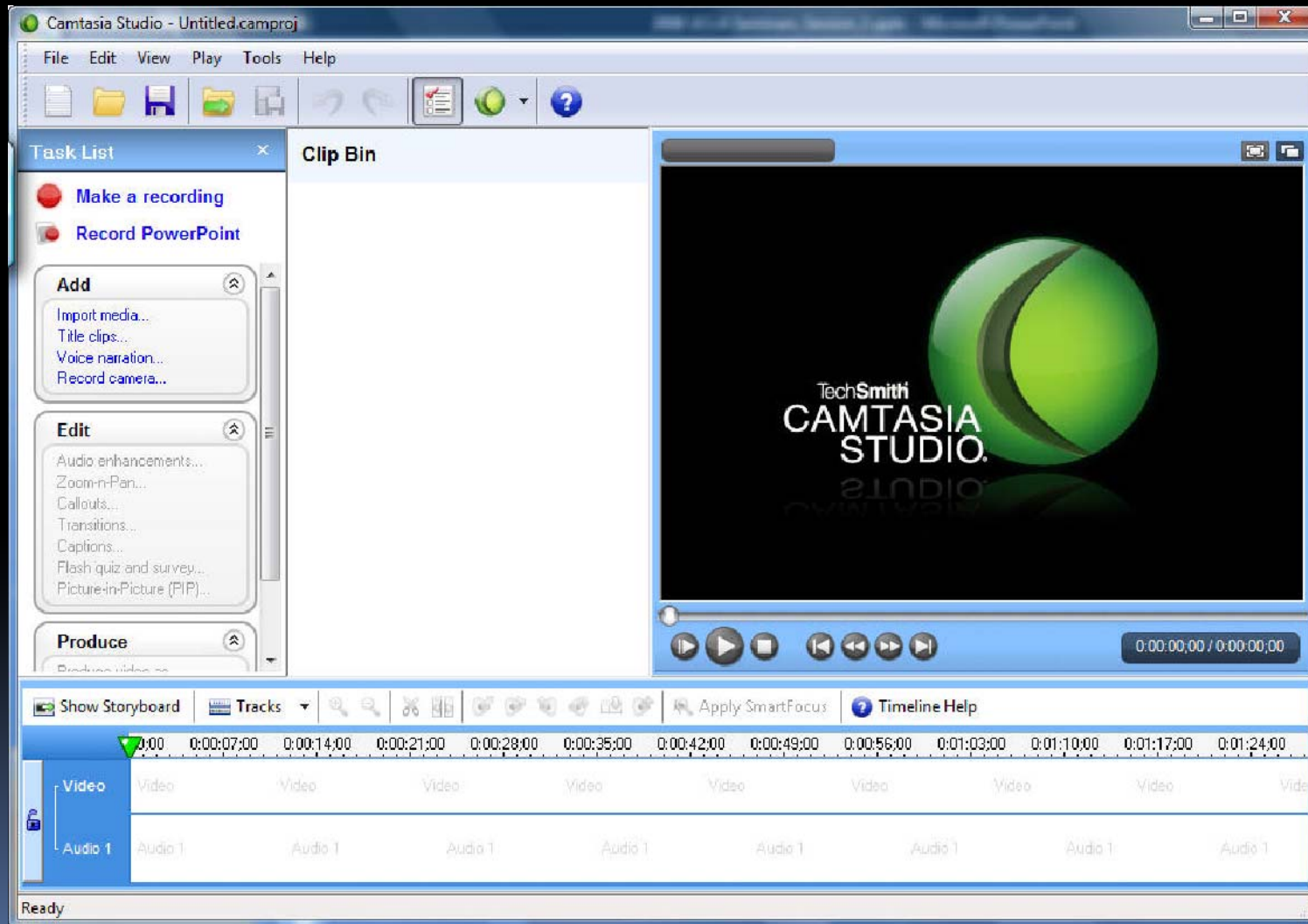
- Adobe Photoshop Elements
- Web-based Image Editors ([Picnik](#), PS Express)
- Open Source applications (Gimp)

\*Just be aware of lack of color management support

# Screen Captures

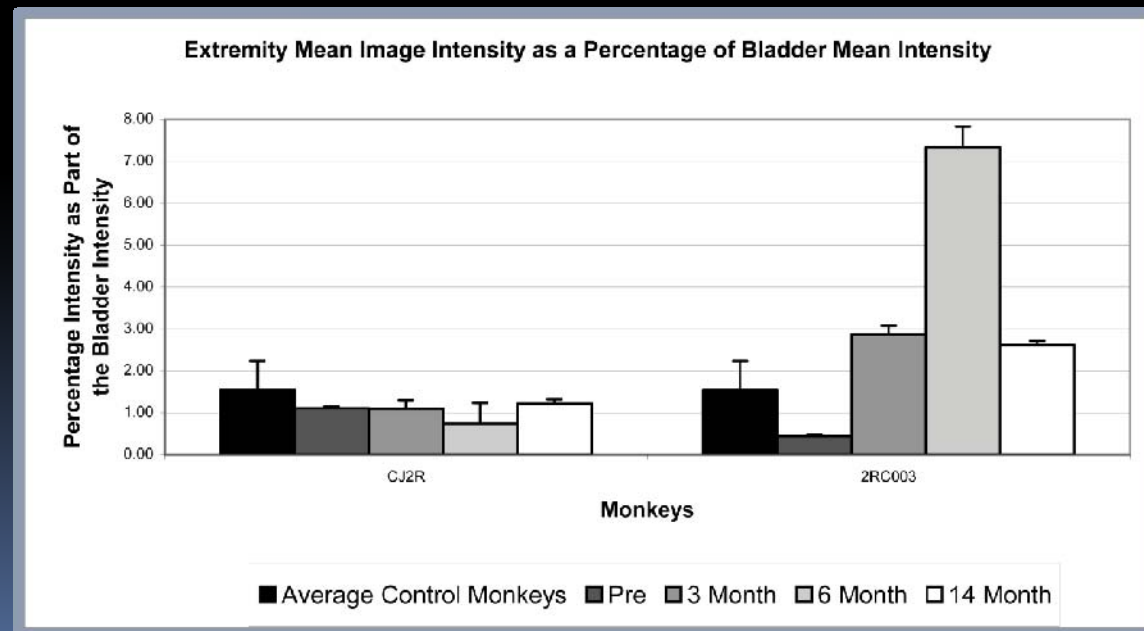


# Screen Recording



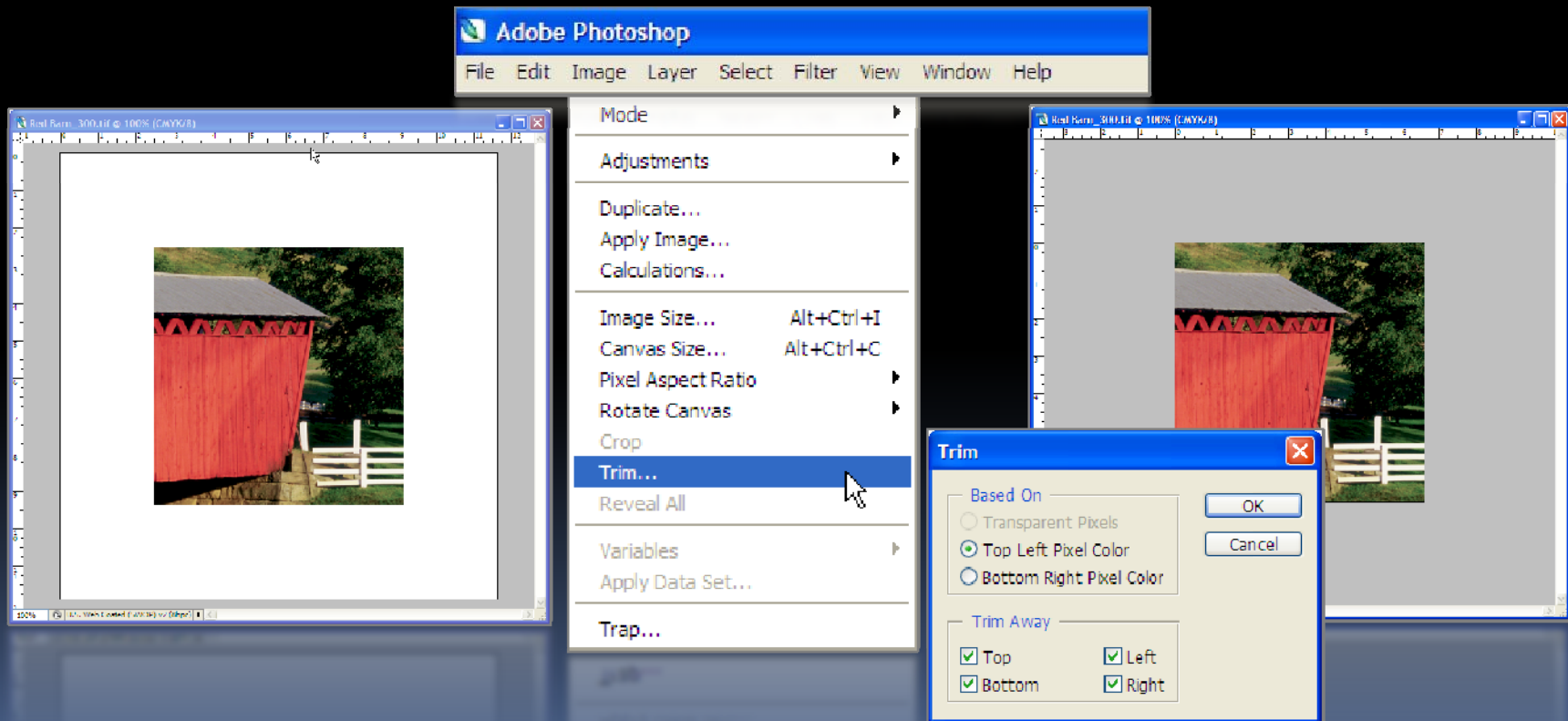
# Avoid Pattern Fills

- Do not use pattern or textured fills in graphics.
- Use solid fills or percentage screens.
- A 20% difference in percent screens is most effective for differentiation.



# Crop Excess White Space

- Use Adobe Photoshop's Trim Feature





# Online Preflight

<http://dx.sheridan.com/>

The screenshot shows the homepage of the DigitalExpert website. At the top is a navigation menu with links for Home, About, Guidelines, Resources & Links, Tech Talk, FAQ's, and News. A search bar is located to the right of the menu. Below the menu is a large banner featuring the DigitalExpert logo on the left, which includes a stylized book icon. The background of the banner is a green gradient with binary code (0s and 1s) and a faint image of a newspaper. To the right of the banner is a text box with a yellow arrow icon pointing to the left. Below the banner are three main content areas: a left sidebar with a yellow arrow icon and text about a file checking system; a middle section for 'THE SHERIDAN GROUP' with a logo and text about printing journals, magazines, catalogs, and books, including a 'Quick Find' section with a dropdown menu; and a right sidebar with a yellow arrow icon and text about recent news, including updates from The Sheridan Group, Aries Systems, and ScholarOne. At the bottom of the page is a dark blue footer with the text 'Copyright 2005 | Terms of Use'.

Home About Guidelines Resources & Links Tech Talk FAQ's News Search  GO-->

**Digital Expert™**

→ **The Sheridan Group is proud to provide the DigitalExpert website**

as a tool for your success. Digital Expert is a combination of tools and information that gives everyone the ability to prepare and submit quality digital materials for print production. This website is intended to be a resource and springboard for new ideas in the digital submission process.

→ Try [Online](#), our file checking system. It's easy as 1, 2, 3.  
Check your files... You'll know if there are any problems before you print and how to fix the problems.  
[Learn More >>](#)

**THE SHERIDAN GROUP**  
→ PRINTING JOURNALS, MAGAZINES, CATALOGS AND BOOKS

→ **Quick Find**  
Information at your fingertips.  
- Link to... -

→ **Recent News** | Last Updated 3/25/05

- The Sheridan Group announces the release of the new DigitalExpert website. [Read More >>](#)
- Aries Systems announces the integration of DigitalExpert with Editorial Manager. [Read More >>](#)
- ScholarOne announces the integration of DigitalExpert with Manuscript Central. [Read More >>](#)

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Presentation available at:

Site: <ftp.dartmouthjournals.com>

Username: digexp

Password: 61gexp