



Creating Posters for Scientific Publications

The power of figures

The Interaction of UPF1 with the Stem-loop Binding Protein is Critical for Initiation of Histone mRNA Degradation at the end of S-phase
Stacie Meaurio


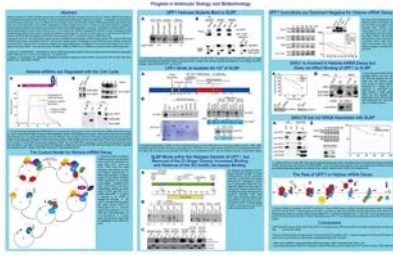





Figure quality is a poster's "Suit and Tie"



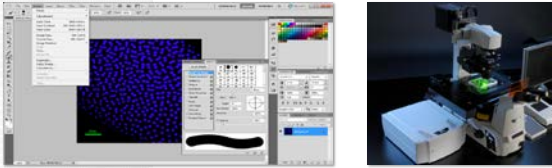
- Your figures reflect your overall effort in experimental design, technical execution, and attention to detail.
- "A picture is worth a thousand words"


Outline 

- **The Starting Materials**
- Assembling your figures
- Making an Impact with Color

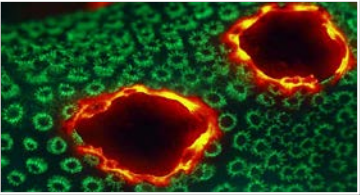
**Primary Data Figures:
Where to start?** 

High-quality figures start in the lab



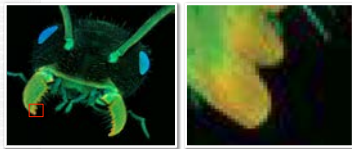

Primary Data Figures 

Master your Technique



James H. Nicholson, Nikon Small World Competition


Pixel-based files



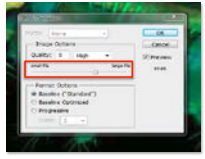
Dr. Jan Michels, Nikon Small World Competition

- Two sub-types of Pixel-based files
 - Lossy
 - Lossless


Lossy file formats (compression)



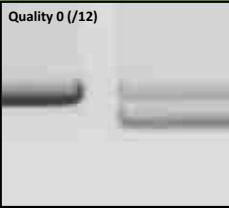
- **Example: Jpeg**
- Highly simplified explanation:
 - The image is divided into tiles
 - The number of colors in each tile is simplified
 - How simplified depends on the “quality” setting chosen
 - These protocols are reapplied every time the files is saved




Lossy file formats (compression)



- Compression leads to a greatly reduced file size
- Fine for everyday use, not for primary data
- Once a compression is applied, it cannot be reversed




Lossless files




- Example: Tiff
 - Color of each pixel is recorded.
 - The color of each pixel will not change simply by saving.
 - The price of fidelity: file size.

Jpeg: 15.2 KB




Tiff: 790 KB



Dr. Gregory Rouse,
Nikon Small World Competition


Lossless versus Lossy files




Lossy file compression is even worse for line drawings and graphs.

Tiff	Jpg
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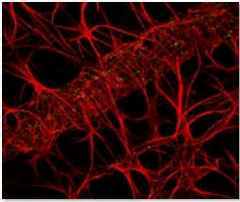
LZW Lossless file compression



- Efficient storage, no information loss
- Highly simplified explanation: Replaces a pixel color with a short code throughout the whole the image


LZW Lossless file compression 

Effective on images with a large number of colors

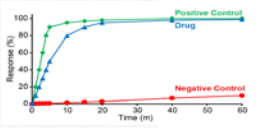


- 85 mm wide, 300 dpi
- Uncompressed Tiff: 2,710 KB
- LZW Compressed Tiff: 1,550 KB


Cameron Johnson, Nikon Small World Competition

LZW Lossless file compression 

Very powerful on images with a limited number of colors




- 85 mm wide
- Uncompressed Tiff: 25,200 KB (25.2 MB!)
- LZW Compressed Tiff: 256 KB
- Jpeg (with a high Quality setting): 586 KB

Outline 


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AGU poster guidelines




- Suggested guidelines for the AGU Fall Meeting poster hall
 - Paragraph and figure captions: 24-point font (0.9 cm height)
 - Headers at least in a 36-point font (1.2 cm height)
 - Be creative by using different font sizes, styles, and colors.

Use the right visuals



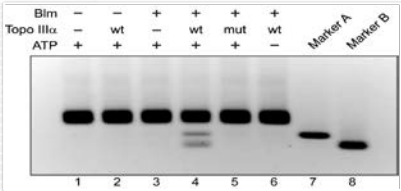
- Comparisons     
- Distribution    
- Parts of a whole   
- Trend over time   
- Deviations   
- Relationships   

Labeling your Primary Data

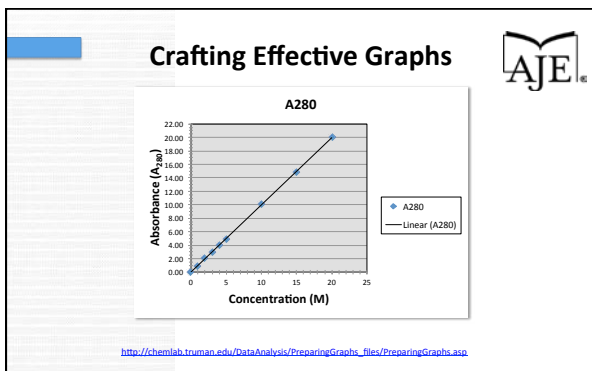


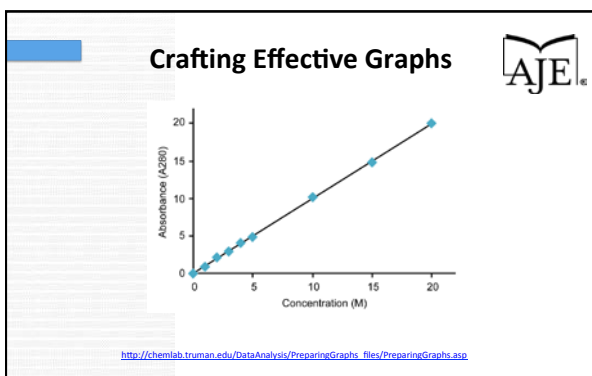
- Make it easy to read your poster
- Make the legend “Supplemental Material”

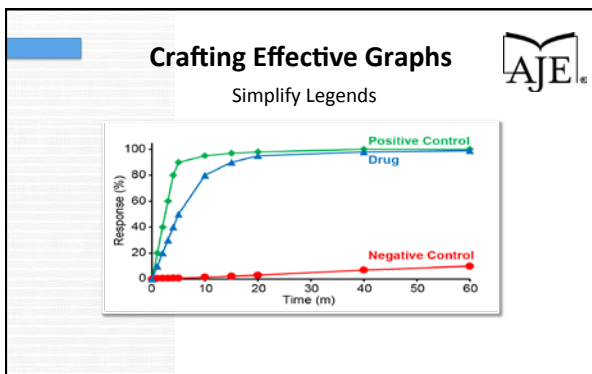
Bim	-	-	+	+	+	+	
Topo III α	-	wt	-	wt	mut	wt	
ATP	+	+	+	+	+	-	



(Plank et al., 2006)







Crafting Effective Graphs

Be Careful with Patterns

AJE

Crafting Effective Graphs

Don't Hesitate to Try Something "New"

Species	Number of Eggs per Day
<i>D. albomarginata</i>	~35
<i>D. amygdalipes</i>	~30
<i>D. aneides</i>	~25
<i>D. eusynsira</i>	~20
<i>D. gladiata</i>	~15
<i>D. hansonoides</i>	~10
<i>D. longiseta</i>	~5
<i>D. magnaequaria</i>	~4
<i>D. mangabeirae</i>	~3
<i>D. melanogaster</i>	~2
<i>D. microsculpta</i>	~1
<i>D. pilatsetae</i>	~1
<i>D. sigmoides</i>	~1
<i>D. xanthognoma</i>	~1


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Moving Graphs Between Programs



- Graphs are Vector Objects
- Copy & Paste often works
- Save (or Export) as a vector file
 - Postscript file (Eps)
 - Pdf file
- Pixel-based file = A picture of a graph

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Editing your figures



Purchased software





Free software



Illustrative Diagrams

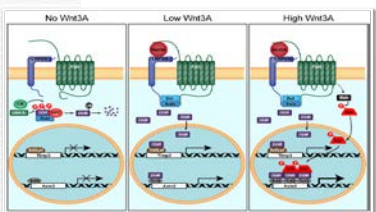

Use diagrams to reduce reviewer (and general reader) confusion



(Cejka & Plank et al., 2004)


Illustrative Diagrams

Promote your research



(Could be You et al., 2014)


Saving the Figures




- Two Formats
 - Pixel-Based
 - Industry Standard: Tiff
 - Uneditable with a set resolution
 - General Guidelines:
 - Photos: 300 dpi
 - Photos with Lettering or Line-Art: 600 dpi
 - Line-Art (Graphs and diagrams): 1200 dpi
 - Vector-Based
 - Industry Standard: Eps (& Pdf)
 - Editable with “Infinite Resolution”

Identifying how to save files for a Publishing PDF file

1. Resolution: set the resolution to 1200 dpi
2. Color: set the color to CMYK for images and RGB for other images
3. Embedding: embed all fonts and images
4. Save files as PDF files




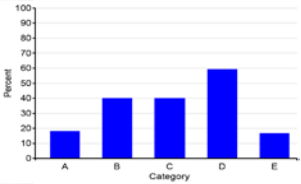
Outline



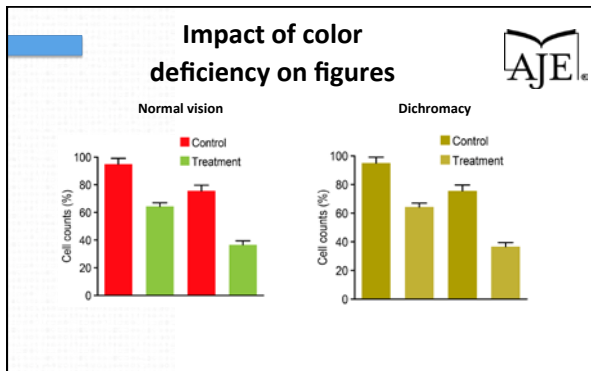
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How to use color effectively





Category	Percent
A	15
B	40
C	40
D	60
E	15



AJE Figure Services

Figure Formatting

- Send us your figures, and our outstanding team will make them look great for publication

Custom Illustration

- Our team will create great figures from your data or a sketch

Send an e-mail to support@aje.com for a quote
Special thanks to Michele, Stacie, and Theresa!

Poster Preparation

- Send us your text and figures and our team will prepare a clear and attractive poster for your conference needs
