



Your

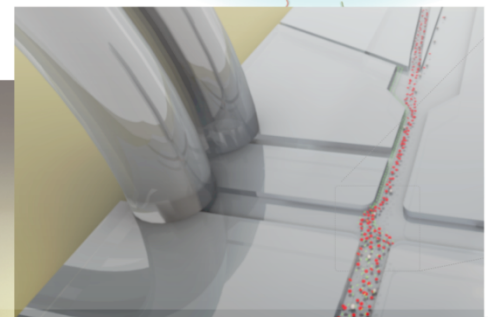
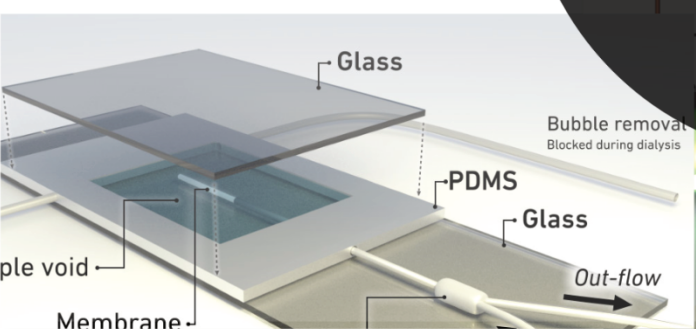
FACT SHEET

for scientific

POSTERS

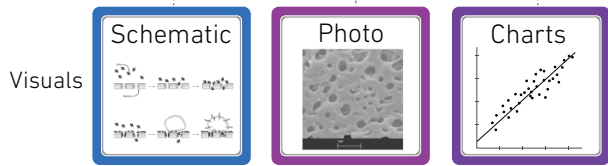
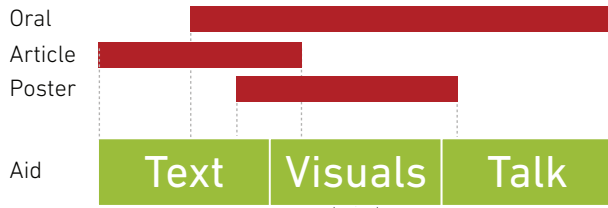


Visualizeyourscience.com

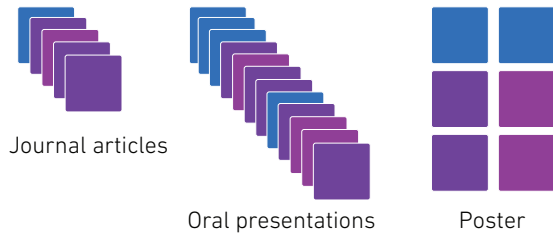


# Science Communication

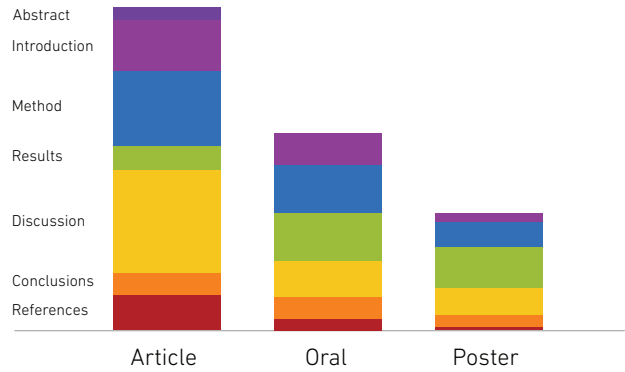
**3** main communication **channels**  
main communication **aids**  
main communication **visuals**



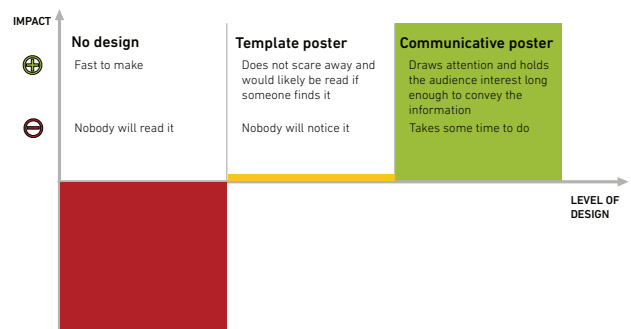
## How visuals are used in scientific presentations



## Level of details



## Levels of poster design



# Good and beautiful poster

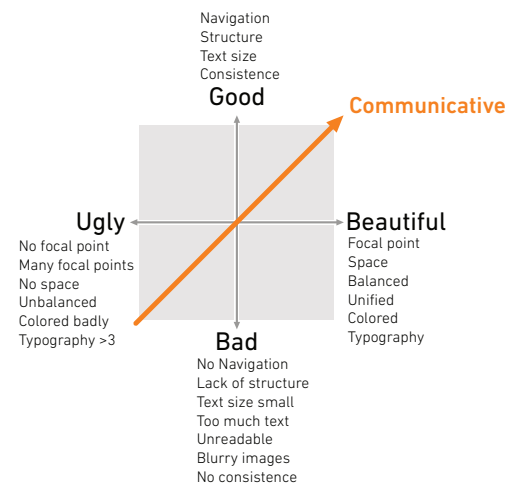
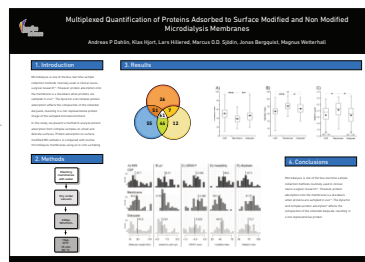
## A poster should be seen as

- Source of information
- Conversation starter
- Advertisement of your work
- Summary of your work

## A good poster is

1. Organized
2. Easy to navigate
3. Focused on one message
4. Not too much text (300-800 words)
5. Not too many colors

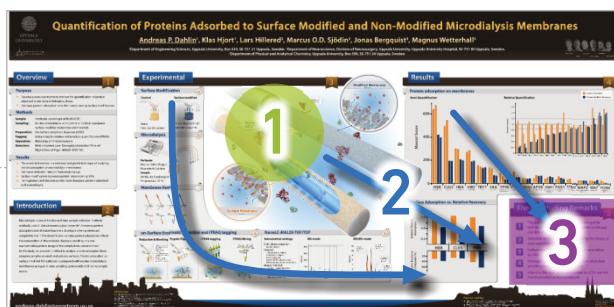
Also called *template poster*



## A good and beautiful poster also

1. Captures attention
2. Controls eye movement
3. Conveys information
4. Evokes emotion

Also called *communicating poster*



# Good Poster



## Define the purpose and prepare

What do you want the person passing by your poster to do?

- Engage in a discussion about the content?
- Learn enough to go off and try for themselves?
- Want to collaborate?
- Something else?



## Organize

- How should the reading order be?
- How could I help the audience to navigate the poster?



## Text

- Main headline should be larger than 90pt
- Sub-headings should be at least 36pt
- Text should be at least 24pt
- Keep text elements to 50 words or fewer
- Use phrases rather than full sentences
- Keep the length of the line to approx. 55 characters (10-15 words) for fast reading
- Left justify the text
- Do not use more than 3 typefaces
- Sans serif fonts (like Arial, Helvetica) are best for headlines
- Serif fonts (like Times, Garamond) are good for block text



## Graphics

- Good graphs communicate relationships quickly
- Graphs should be simple and clean
- Write explanations directly on figures, instead of referencing from elsewhere



## Layout

- Use visual grammar to guide readers to the important parts of your poster
- Balance the placement of text and graphics to create visual appeal
- Use white space creatively to help define the flow of information



## Will the reader be able to contact you?

- Add Names, addresses, E-mail, Social media, webpage....

## Poster time table



### 5 weeks

- Define the message you want to deliver
- Check poster size and recommendations
- Draw the layout on a piece of paper
- Search for inspiration and ideas for color schemes, typography etc



### 4 weeks

- Start to draw in your software of choice and create a first draft
- Add guiding grids
- Add headings, text, images etc.
- Edit text
- Remove redundant images



### 3 weeks

- Send out the draft to your peers and ask for feedback on the information only
- Refine images: Unify them with the poster
- Add color scheme
- Choose typography



### 2 weeks

- Edit information, make it more effective
- Decide poster focal point
- Decide reading order
- Add navigation cues
- Rearrange objects
- Test the poster on your peers and on someone not in science



### 1 week

- Make final adjustments
- Prepare for print
- Print large poster and small handouts

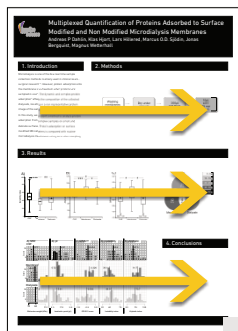


Outshine your neighboring posters, and own the venue

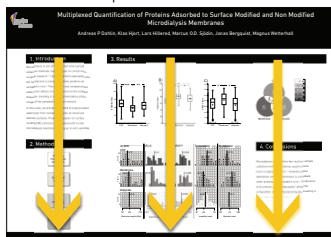
# Organize

## Natural reading order

Portrait

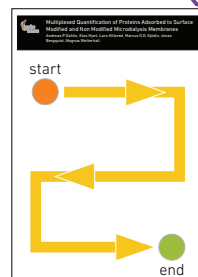


Landscape

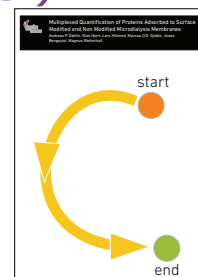


Navigation on a poster is crucial to make it easier for the audience to read the poster in correct order

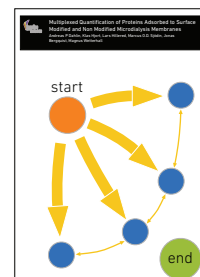
More creative reading order



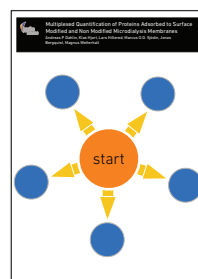
Sequential  
Movement S-curve



Organic  
Semi-circle



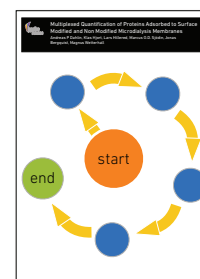
Miniprojects  
One idea - many sub-projects



Radial  
Strong focus



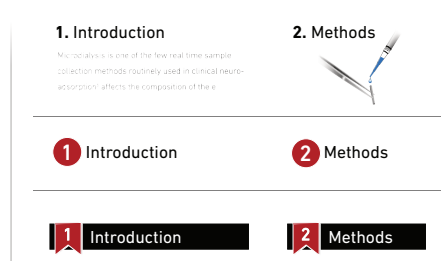
Importance  
Conclusion-driven



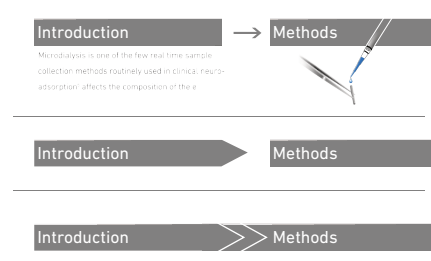
Clock  
Strong focus  
Start close to end in space

## How to show reading order

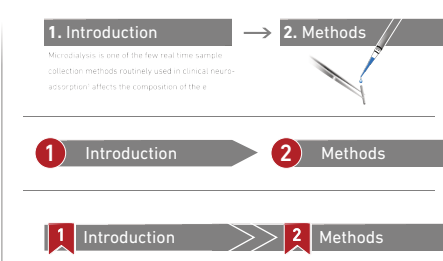
### Numbers Most obvious navigation aid



### Arrows Also great navigation tool



### Numbers and arrows Best solution





# A Text

## Size

Main headline should be larger than 90pt

Title } 90pt

Sub-headings should be at least 36pt

Subtitle } 36pt

Text should be at least 24pt

Text } 24pt

## Block text

< 50 words/block

55 characters/line

1.2 line space

Left justified

Serif font

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Donec in nulla quis nisl accumsan cursus. Phasellus accumsan, justo vel ullamcorper pretium, ipsum dui faucibus ipsum, id pharetra neque nunc nec sem. Praesent in nunc at augue dignissim mollis. Vivamus dictum efficitur ante, in euismod mauris maximus vel. Praesent eu vestibulum.

## About Lorem Ipsum

"Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text ever since the 1500s, when an unknown printer took a galley of type and scrambled it to make a type specimen book. It has survived not only five centuries, but also the leap into electronic typesetting, remaining essentially unchanged." "Lorem Ipsum comes from sections 1.10.32 and 1.10.33 of "de Finibus Bonorum et Malorum" (The Extremes of Good and Evil) by Cicero, written in 45 BC"

Source: [Lipsum.com](http://Lipsum.com)

Type affects the perception of credibility  
Choose it wisely

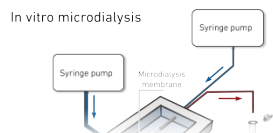
## Choose Typeface

- Do not use more than 3 typefaces
- Sans serif fonts (like Arial, Helvetica) are best for headlines
- Serif fonts (like Times, Garamond) are good for block text

### Pairing fonts

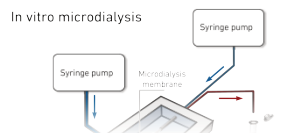
Headline: Serif (Baskerville)  
Sub head: Sans serif (DIN)  
Figure: Sans serif (DIN)

### Experimental method



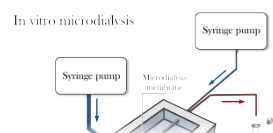
Headline: Slab serif (Rockwell)  
Sub head: Sans serif (DIN)  
Figure: Sans serif (DIN)

### Experimental method



Headline: Sans Serif (DIN)  
Sub head: Serif (Baskerville)  
Figure: Serif (Baskerville)

### Experimental method



## Typeface differences



Family	Serif	Sans serif	Slab serif	Script	Decorative
Examples	Times Baskerville Georgia	Arial Futura DIN	Rockwell Glypha Clarendon	Allura Tangerine Hipster	Broadway Tarzan TREND
Best for:	Block text	Head lines	Head lines	Drop caps	Ornaments

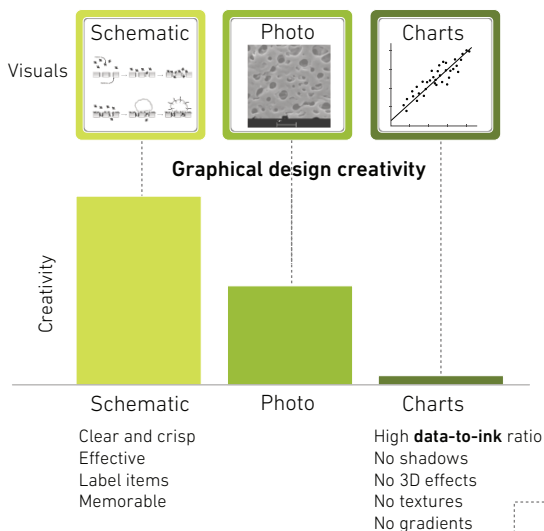
86 words  
86 characters/line  
1.0 line space  
Left and right justified  
Sans serif font

Avoid  
Comic Sans

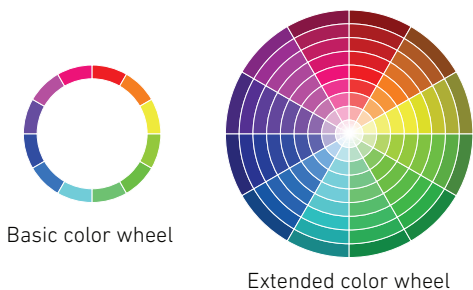


# Graphics

## Types of graphics in science



## Colors



## Graphics for fast communication

### Text in 'method section' of article

After the sample collection, the microdialysis catheters were washed externally and internally by placing them in water and rinsing with water at a flow rate of 0.5 µL/min during 12 h. Thereafter, the membranes were excavated from the catheters, transferred to 0.5 mL protein low binding vials (Eppendorf, Hamburg, Germany) and dried using a Speedvac system IS5110 (Savant Holbrook, N.Y., USA). All samples were redissolved in 200 µL 0.1M NH<sub>4</sub>HCO<sub>3</sub>. The disulfide bridges in the proteins were reduced by adding 10 µL of 45 mM DTT and incubating for 15 min at 50°C [Dahlin et al. 2012].

Communication speed  
and attractiveness

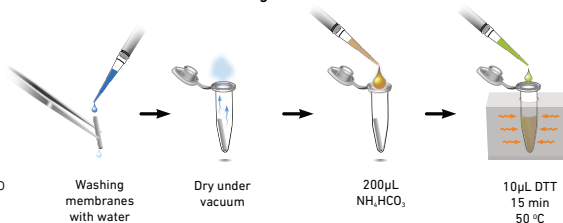
Text with details (93 words)  
Perfect in articles, not in posters

### Process image of the text



Simple flow diagram.  
Few details, faster read  
Good in posters but  
quite boring

### Faster communication with image and text combined



Detailed flow diagram with  
added 3D-visuals.  
Communicate fast due to  
object recognition.  
Best for poster

## Color harmonies



## Color coding

RGB = Red Green Blue  
Screen color system  
CMYK = Cyan Magenta Yellow Black (Kelvin)  
Printer color system  
HSV = Hue Saturation Value  
Color Lightness Darkness  
HEX = Hexadecimal  
6-digit web code for color #XXXXXX

## Color deficiencies

- 8 kinds of color deficiencies
- 8 % of all men
- 0.5% of all women

99% have red-green color deficiency

Find color palettes at:  
[color.adobe.com](http://color.adobe.com)  
Test your images at:  
[color-blindness.com](http://color-blindness.com)



# Layout

Use visual grammar to guide readers to the important parts of your poster

## Start by utilizing CRAP method

### C = Contrast

Poor contrast = poor readability  
= annoying = unprofessional

- Avoid**
- Background picture
  - Background gradient
  - Dark text on dark background
  - Light text on light background
  - Too similar fonts



### R = Repetition

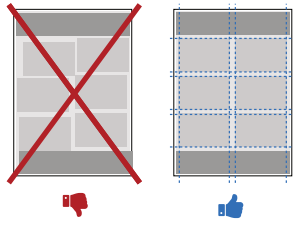
Repeat visuals to create a sense of togetherness

You can repeat color, shape, texture, spatial relationships, line thicknesses, sizes, etc. This helps develop the **organization** and strengthens the **unity**

### A = Alignment

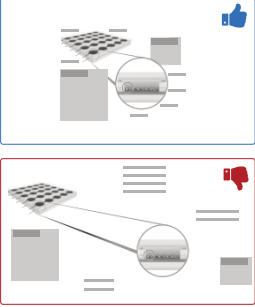
Align elements properly. This is especially important for text boxes vertically and horizontally

Poor alignment disturbs **harmony** and makes the poster more difficult to understand

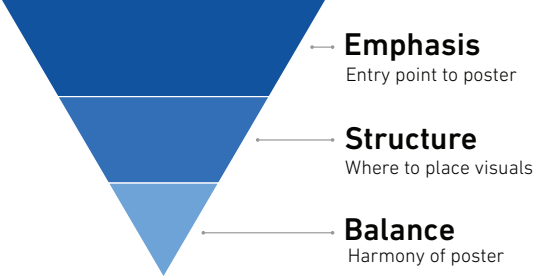


### P = Proximity

Grouping = Place elements that belong to each other close  
Create more negative space = **breathing room**



## Composition funnel



### Emphasis

- The first thing you see on the poster
- The graphical element that draws the attention

**Natural emphasis elements**

- High contrast
- Saturation
- Camera focus
- Motion
- Faces or figures

**Influencers**

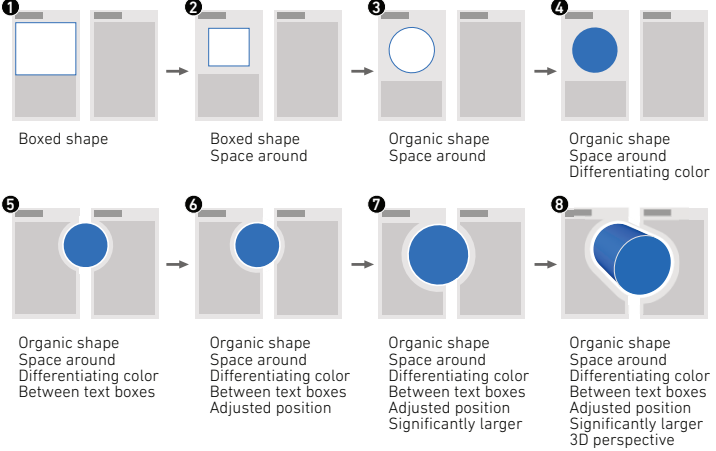
- Guiding lines
- Framing
- Geometry

### Negative space (empty space)

- Lungs of good design
- Not an indication of insufficient information
- As important as areas with information
- Strive for large areas of empty space
- Better with smaller text size and more space around than the opposite

Negative space = Areas without information  
Positive space = Areas with information } **Equally important**

## How to create effective visual emphasis



### Structure

Examples of poster structures

Symmetric	Radial symmetric	Asymmetric	Rule of third
Easy to do Harmonious	Strong focus Harmonious	Easy to do Easy to fit info	Interesting Strong focus
Uninteresting Difficult to fit info	Reading order? Difficult to fit info	Uninteresting Unbalanced	Difficult to fit info Non-template structure

### Balance

"Balancing a composition involves arranging both positive elements and negative space in such a way that no one area of the design overpowers other areas." Steven Bradely, (smashingmagazine.com)

## More advanced poster balancing

1. Determine the visual weight of your visual elements
2. Begin by balancing your emphasis point

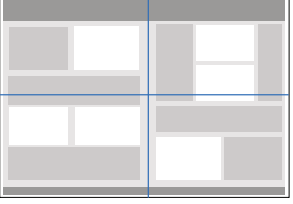
### Visual weight chart

Position	Size	Texture	Quantity	Isolation	Value	Contrast	Orientation	Shape

### Defining visual weight

Visual weight denotes the impact of a graphical element. The more an element attracts the eye, the heavier its visual weight.

## Simple poster balancing



1. Divide your poster in 4 sections
2. Check that you have equal amount of images and text in each section
3. Balance title section with a bottom section

