

Conceptualizing and Designing Scientific Posters

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! Important !

- Poster size A0 (841mm × 1189mm) (portrait)
- Adherence to the [Corporate Design](#) of TU Dresden
 - o Font
 - o Colours
 - o Logo

1. General Information

What is a scientific poster? „...a visualized abstract of your research.“

- Concisely summarizes information or research results
- Should stimulate discussions
- A mix of short text + tables, graphs, and images

What is it not?

- An overview of all data, hypotheses, and research results
- A summary of the entire work on one page



NEED to know vs. NICE to know

What makes a good poster?

Readability	Clear structure
Understandability	Clear layout
Concise title	White spaces
Short sentences/bullet points	Sensible use of images and colours
Lists/numbering	Contact section

2. Science Communication

Important for communication:

- Clearly define the topic and present it appropriately for the occasion and audience
- Define the target audience as precisely as possible and consider their expectations
- Set a clear communication goal for yourself and your institution
- Choose the medium or format that fits the goals and target audience
- Align the presentation style with content

Example of a good structure:

VISUALISING SOUND

FOR PEOPLE WITH IMPAIRED HEARING

WHEN DO WE LOCATE SOUNDS?

Problem

Our sense of hearing allows us to locate where a sound originates. For a large number of people who have a hearing impairment, the audible signals used to detect everyday events can be inaccurate.

Hearing aids amplify sounds entering the ear, this does not accurately preserve spatial information

Solution

Our approach is to convert sounds into visual cues in order to preserve spatial information and allow individuals to overcome these challenges.

Using commodity hardware, we can fit this concept into a standard pair of eyeglasses delivering a portable and socially accepted solution.

Using an array of microphones, the difference in sound intensity and arrival time to each microphone can be processed to estimate the origin of the sound source

LEDs located in peripheral vision, guide the wearer to the source of a sound

Evaluation

Participants will undergo an audiometry tone test in order to determine their hearing ability.

Each group will then undergo a sound localisation test. Participants with impaired hearing will wear the device during the test.

This enables us to confirm whether the device improves localisation accuracy.

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- ✓ Catchy title
- ✓ Clearly divided sections
- ✓ Charming graphics
- ✓ **Center:**
Eye-catcher and main message
- ✓ **Bottom:**
bibliography and contact information

These are **questions** you should ask yourself when creating your poster:

- **What is the most important/interesting/surprising finding from my research project?**
- How can I share my research visually? Should I use diagrams, graphics, images?
- What kind of information can I additionally convey during my presentation that complements my poster?

3. Basics of Design

Work with **form**, **space**, and **colour** to...

- Make something visible,
- Clarify something,
- Make something understandable,
- Understand something (yourself).

The 6 Main Elements

The two complements: Text & Image

Text

Express in text what is difficult or impossible to convey visually.

Image

Show in an image what is difficult or impossible to convey through words.

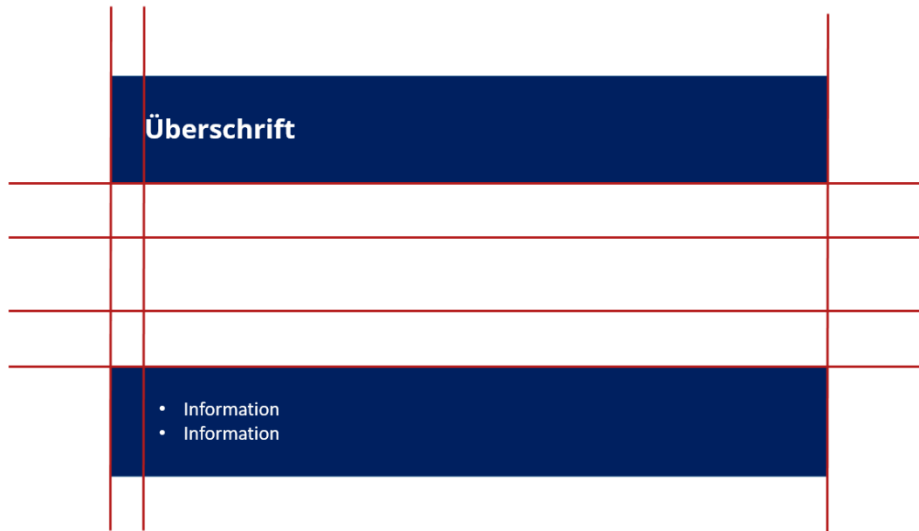
The four additional elements

➤ Line

Lines are two connected points in graphic design. They should...

- Divide space,
- Connect or separate rows, columns, headings (think of a magazine).

Lines are the layout



➤ Colour

Colors are one of the most obvious elements of design. They can stand alone, be used as a background, or be applied in elements like lines, shapes, textures, and typography. Colors can emphasize or connote elements. Moreover, colors create a mood and convey meaning. When combined, they can further alter perceptions. There are primary, secondary, and tertiary colors



Colours can deliberately **highlight** information or intentionally push it to the background.

However, colours should be used **sparingly**.

Stick to harmonious colours:

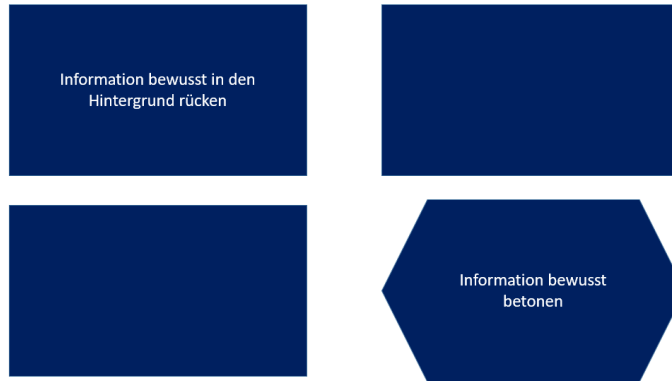
- Main colour
- Shaded main colour
- Accent colour
- Text colour 1
- Text colour 2

Use the colours of [TU Dresden's corporate design](#).

Tip: Each area of TU Dresden has its own colour spectrum. You might want to use those.

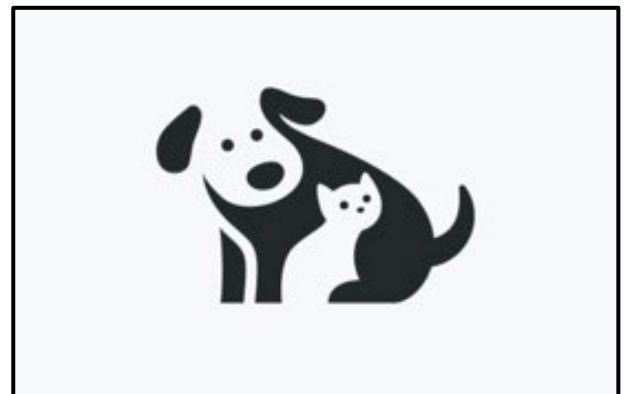
➤ Shape

Shapes can highlight elements and create interest. Shapes are defined by boundaries, such as lines or colors. They are often used to emphasize a part of the page. Ultimately, everything is a shape. Therefore, it's essential to keep the overall shape in mind and see how the shapes interact with each other.



➤ Space

Whitespace is one of the most underutilized and misunderstood aspects of design. The areas of a page left blank – whether white or another color – help create an overall image. Whitespace should be used intentionally to generate areas and shapes. Moreover, it helps to arrange, highlight, and emphasize important aspects.



The Concept of Proximity

Information placed close together is perceived as related.



Consider the 6 elements not in isolation but as a „team“ (Balance is important!)

Summary of Poster Elements

Grid / Layout

Headline

Subheadlines

Texts

Images and Charts

shapes

4. Tips & Tricks

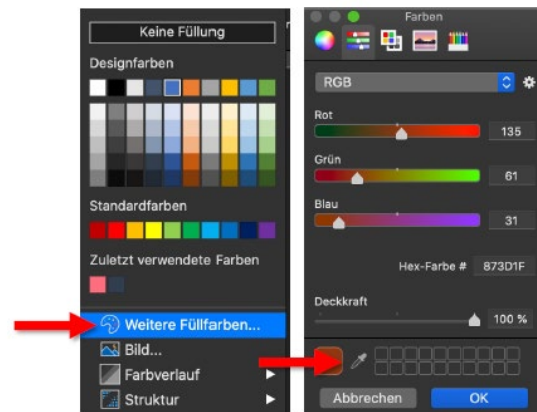
Colour

„How should I choose among all these colours?“

1.) Seek inspiration:



2.) Select fill colours with an eyedropper tool:



Designing with Power Point

Self-learning unit on:

- Basic functions and user interface: <https://www.youtube.com/watch?v=PxYikmVmVHQ>
 - Image and Icon database: <https://www.youtube.com/shorts/nApW06JIIQY>
 - Creating charts: <https://www.youtube.com/watch?v=km2ufLDhnD0>
- ➔ Use the [Corporate Design](#) of TU Dresden nutzen (Colour, Font, Logo, etc.)

Source Citation



The sources/bibliography used must be indicated directly on the poster at StuFoExpo 2024!

Software

Which other software can I use to create a poster?

- Adobe Illustrator, Photoshop, and InDesign (paid)
- Canva

Open Source Alternatives

- OpenOffice is a free alternative to MS Office (Impress is the PowerPoint equivalent)
- Inkscape and Gimp are alternatives to Adobe products
- For scales and diagrams: Gliffy or Lovely Charts.

Other free graphic software:

https://thestocks.im	Stock photos, Stock videos, Icons, ...
https://commons.wikimedia.org/wiki	Various media files under CC license
https://pixabay.com	License-free stock photos
https://www.dafont.com/de/	License-free fonts
https://www.animateyour.science	Examples and professional science communication
https://www.youtube.com/watch?v=SYk29tnxASs	Tutorial on poster design

Source of inspiration – Past StuFoExpo Contributions

[StuFoExpo 2021](#)

[StuFoExpo 2022](#)

[StuFoExpo 2023](#)

Good Luck with creating your poster!