

Scientific posters¹

Posters are a medium that can be very effective for conveying information. In a scientific forum, they allow the presentation of projects, results, and ideas from one or several authors to a large audience simultaneously and interactively. It is a mixed medium that combines printed communication with the opportunity for dialogue with the author.

Creating a poster is a distillation process that involves filtering, purifying, organising, analysing, and presenting complete information clearly, engagingly, effectively, and safely, so that it can be assimilated and understood immediately by the viewer. Therefore, the visual aspects should take precedence over abstract elements (such as text or numbers). The words or figures used should be precise and compelling, conveying the information in a way that facilitates retention through brief, simple, easily memorable words that are familiar to the audience and possess a certain rhythm. Wordplay or ambiguities may be included to engage the audience (similar to an advertising slogan).

According to Purrington (2004), the average time a viewer typically spends standing in front of a conference poster does not exceed 10 minutes, which is why it is suggested that no more than 800 words be used in the design. Thus, the challenge when creating a poster is to present the information in such a way that the reader can quickly determine whether it is of interest, and if so, access it in a friendly and accessible manner.

According to Guardiola (2002), the advantages of a poster can be summarised as follows:

- Attendees at the conference can read, analyse, and study the content of the poster as many times as they wish.
- It allows for direct contact with the authors, as, in general, they are required to remain by the poster for a set period of time.
- Graphic communication facilitates the understanding of the content.
- It is easier to retain or remember images than the content of an oral presentation.
- If well-designed, it can be an engaging and pleasant form of communication.

Logically, alongside these advantages, there are also some drawbacks, the most notable being that interested individuals must approach the poster, sometimes in a crowded setting, and that viewing it is done while standing.

¹ This document is a summary of the following reference: Bravo Ramos, J.L. (2007). [Elaboración de pósteres para congresos](#). Madrid: Instituto de Ciencias de la Educación

When creating a scientific poster, we must consider two fundamental and complementary aspects: the content we aim to convey through the poster, and the visual presentation, which will significantly influence the transmission of the content and guide the reader's interpretation.

Structure of the content

It is important to remember that when creating a poster, what we are presenting is a scientific-technical communication. Therefore, the most appropriate structure is that of a communication or an oral presentation. As such, whenever the study allows, the structure is defined in the following sections:

- a. Header:** This serves as an introduction to the content that will follow, and should be engaging enough to attract attention while informing the audience about the content and its authorship. This section should include:
 - Title
 - Authors
 - Authors' affiliations
- b. Introduction:** This section should set the context of the work, justify its significance, and state the hypotheses and/or objectives of the study.
- c. Methodology:** The methods used for both data collection and data analysis.
- d. Results:** The findings obtained during the experimental phase.
- e. Conclusions**
- f. References:** A list of references (no more than 10).

Other recommendations

For the poster to be effective as a vehicle for visual communication, in the various sections we have outlined, Guardiola [(2002) 18] suggests the following considerations:

- Figures and tables should account for more than 50% of the content, and whenever possible, tables should be replaced with graphical representations.
- The different sections should be clearly delineated, with ample white space separating them and distinguishing boxes or backgrounds.
- Information that is not important or relevant should be omitted, as it distracts the reader and prevents focus on the most important points.
- Attention should be given to the wording to avoid expressive errors and, even more importantly, spelling mistakes or simple typos.
- Care must be taken to ensure that the data are consistent, meaning that the results align with the statements and that there are no errors in the text, tables, or figures.

Characteristics of the poster²

A good poster should meet these three characteristics:

- **Legible:** This means that the ideas should flow easily through careful wording, where words are chosen to explain the content clearly and allow the text to be easily deciphered. To achieve this, the font size should be large enough to be readable from a distance of 6 to 10 feet (approximately 2 to 3 metres) and with a simple typeface that the audience can interpret without difficulty.
- **Well-organised:** The spatial organisation of a poster's content can influence up to 95% of how attracted the audience will be and how quickly they will grasp the content. It is advisable to organise the content in bullet points, which should form columns that allow the sequence of information to be followed easily. The number of columns should be between three and five (depending on the width of the poster), with a width that accommodates around 40 characters per line, and text blocks that contain fewer than 10 lines.
- **Concise:** Some studies suggest that an audience with little interest in the topic will spend no more than 11 seconds on a poster unless it is of particular interest to them or uses communication techniques that make the information exceptionally concise.

Legibility of the text

The legibility of the text depends on essential factors such as:

- a. The writing style employed in its preparation. The grammatical style should adapt to what is known as the **scientific style**, which is characterised by:
 - **Conciseness:** Texts should be concise, using short sentences.
 - **Simple grammatical construction:** This involves the use of straightforward grammar, where verbs play a significant role, and adjectives and adverbs are used sparingly, positioned directly after the noun or verb they modify, respectively.
 - **Preferably active voice:** Verbs should be used in the active voice whenever possible.
 - **Caution with gerunds and overused words:** Care should be taken to avoid excessive use of gerunds or clichéd expressions.

² To view commented examples, check the following reference: López-Cano, R. (2012). [*Cómo hacer una comunicación, ponencia o paper y no morir en el intento. Un manual de autoayuda académica.*](#) Barcelona: SIBE-Sociedad de musicología. Pp. 29 a 36.

- The words should aim to **convey the message** unequivocally, with the terminology specific to the scientific field in which the content of the poster is developed being prominently used.
- b. **Sharpness** is related to the impression of the poster on paper. This pertains both to the mark it leaves on the surface or paper, which must be sufficient to ensure that no detail is lost, and its relationship with the background, so that the latter does not dominate or obscure the perception of the significant elements.
- c. **Font type and size.** The most suitable fonts for creating a poster are those that do not feature embellishments that could hinder their perception from a distance, and are large enough to avoid the need to approach too closely. Therefore, we recommend simple stroke fonts such as Arial, Helvetica, Tahoma, or Verdana, provided they are sufficiently large. If the text is lengthy and organised into columns, the Times font can also be used. Here are some recommendations:

Título. En negrita.	54 puntos
Subtítulos o títulos intermedios	48 puntos
Autores, filiación y otros datos	30 puntos
Texto	28 puntos
Pies de ilustración	24 puntos

Design and composition

Composition involves positioning the elements that make up the poster in a harmonious way, ensuring that the viewer's attention is directed towards those that carry the most significance, in line with the ultimate intention of the message being communicated.

When an image, graphic, or text is part of a poster, it should be distributed in such a way as to cover the entire surface, yet without making it feel overcrowded. We must organise all the elements with a rhythmic sense for the eye, creating a flow and considering the positioning of each one. Western writing has accustomed us to read from left to right and from top to bottom, associating the graphic space on the left with the past or the beginning of things, and that on the right with the future, the direction in which we are heading.

However, the eye and the laws of perception also contribute their own form of reading, and they do so:

- From larger surfaces to smaller ones.
- From irregular objects to regular ones.
- From graphics to text.

The eye is also drawn to very bright elements. Brightness depends on the contrast with the background. Thus, a light colour loses its brilliance against a white background. Signs of the same colour are better associated with each other. Colours should be limited to three or four, as more colours require more time to decode the idea, increasing intellectual fatigue.

In addition to composition and colour play, there are various techniques to attract attention and interest within a composition: arrows, boxes, embossing, overlays, or emphasised characters such as bold, italic, small caps, or different colours, etc. A good composition will place the main significant elements at the key attention points of the poster. Some considerations we must bear in mind are the following:

- The centre is an area that does not usually maintain attention. Positions close to the edges do not typically provide good balance.
- The expressive power of an object increases the higher and further to the right it appears in the frame.
- The line creates reading directions and directs attention to specific areas of the composition. The presence of these directional lines interrupts the viewer's attention and makes them focus on particular places that would otherwise go unnoticed.
- Colour is one of the most emotional factors in visual expression.

Materials and elaboration process

Since there is no standard documentation that normalises the minimum requirements for creating a scientific or technical poster in general, we must carefully read the presentation guidelines and usage conditions provided by the organisers of the event where the poster will be presented. For the SIBE 2025 Congress, following the recommendations in López-Cano (2012, p. 28), posters will be accepted with dimensions ranging from 80 cm x 160 cm to 100 cm x 200 cm.

The creation of the poster can follow different procedures:

- **Using A4-sized pieces**, which we print on our printer and assemble like a puzzle, gluing the pieces onto a large sheet of cardboard. For this method,

we start with a surface the size of the poster we want to create and a colour that complements the other elements we will place on it.

- **As a single piece.** Using a software program and printing it on a large-format printer at the size specified by the conference. In this case, we need to plan how to transport and hang it in the room where the exhibition will take place. There are various free graphic design tools available for creating conference posters. Some suggestions include: [Canva](#), [Mind the Graph](#), [Piktochart](#). For the creation of posters that do not involve a high degree of complexity, we suggest using PowerPoint or Microsoft Publisher, both of which are part of the Office Suite.

References

Bravo Ramos, J.L. (2007). [Elaboración de pósteres para congresos](#). Madrid: Instituto de Ciencias de la Educación.

Guardiola, E. (2002) "El Póster, una forma de presentación eficaz en un congreso". En *Actas del Primer Congreso Nacional de Bibliotecas Públicas*. Valencia, octubre 2002. [Visitado: 27/11/2024].

López-Cano, R. (2012). [Cómo hacer una comunicación, ponencia o paper y no morir en el intento. Un manual de autoayuda académica](#). Barcelona: SIBE-Sociedad de musicología.

Purrington, C. (2004) *Advice on designing scientific posters*. [en línea] <http://www.swarthmore.edu/NatSci/cpurrrin1/posteradvice.htm> [Visitado: 27/11/2024]