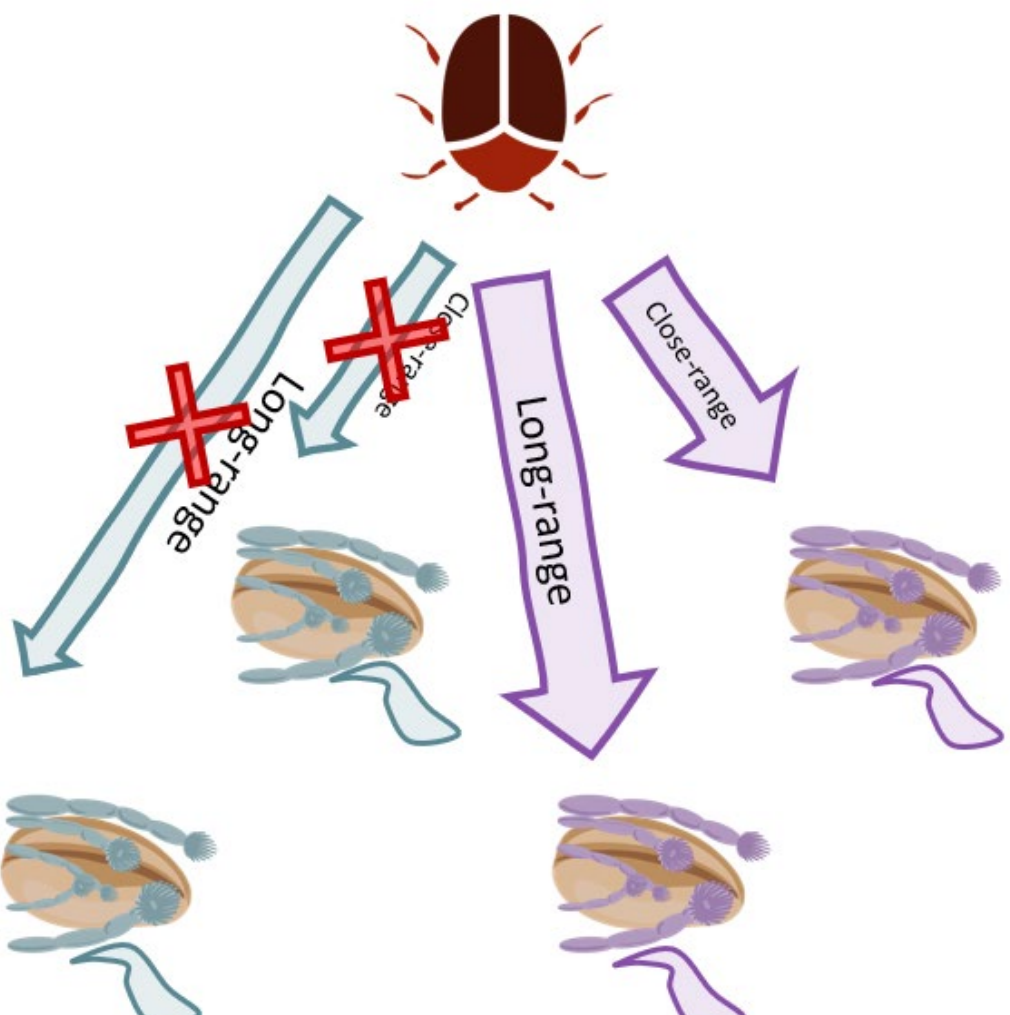


**Attraction, mobility, and preference by cigarette beetle  
to microbially-mediated volatile emissions by two  
species of fungi in stored grain**



# Designing, Producing, and Communicating Effective Scientific Graphical Abstracts Mini-Workshop Handout

## What is a graphical abstract?

An accessible aid for academics and non-academics to visually and concisely consume the summary of your manuscript or research.

## Basics of making a graphical abstract

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1. Check the guidelines for the publisher or media site you will share the graphical abstract.
2. Start with an idea of content to represent your research concisely through images, a few words (~80 words or less), and convey the “it/so what” factor.
3. Sketch your idea and explore design options (layout, color, font, alignment, etc.)
4. Review and edit by getting feedback from peers and non-academics alike.
5. Always keep your audience in mind!

## Common layout styles

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1. **Diagram** - minimal background context with jargon with visuals. Audience = experts.
2. **P-Value** - vertical and horizontal layouts, more accessible with some icons and text. Audience = experts to knowledgeable.
3. **Infographic** - less emphasis on data but more on message. Audience = Captures experts and the public.
4. **Comic Strip** - a whimsical way to convey a scientific message. Audience = Public.
5. Check your submission location, there often a premade layout for journal publications on their website.

## Tips to conveying information accessibly

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1. Using a [color wheel](#) in conjunction with a color blindness simulator for [images](#) and [graphs](#) can help ensure information is broadly conveyed.
2. Content layout conveys the story. Utilizing negative space, readable font (i.e. sans serif fonts are most accessible), consistent formatting, emphasizing important points with bold and concise bullet points.
3. Formatting (numbers, arrows, etc.) helps intuitively guide the reader on how the order of elements should be read
4. [Graphic contrast](#) can ensure information is conveyed and emphasized.
5. Font sizes should reflect headings (largest) to detail text (smallest). Try to keep text to a minimum.

## Programs

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1. Programs can provide start-to-finish custom designs that can be quite expensive (e.g. [Wiley Editing Services](#)).
2. Template services such as [Canva](#) and [Mind the Graph](#) help design a coherent finished product.
3. Clip-art services provide excellent artwork, many times free of charge: [PhyloPic](#), [The Noun Project](#), [FreePik](#), and [Bioicons](#).
4. Finally, hiring scientific artists is another option, whether that means hiring a talented lab mate or finding a designer online; if you have the resources, there are excellent designers out there.

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### Support

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1. Find a core group of peers that will review and help you edit your graphic.
2. Reach out to your university library to better understand creative commons licenses
3. Your library may also be a place to ask if they already pay for some design licenses, such as [Adobe Illustrator](#) or [Affinity](#).

### Further Reading

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- 1) Insta reading by chemdye\_si: <https://www.instagram.com/p/CkNJw5aJLlb/>
- 2) Great thread on how to make graphical abstracts in powerpoint by Dr. Robin Hayward (@CanopyRobin) on Twitter: <https://twitter.com/CanopyRobin/status/1537344286479601665>
- 3) Exhaustive tips and tricks for graphical abstracts by Dr. Nuria Melisa Morales García (@NuriaMelisaMor1) on Twitter: <https://twitter.com/NuriaMelisaMor1/status/1447493698288332805>
- 4) The ultimate guide to graphical abstracts by Drs. Balbin and Rossi: <https://www.animateyour.science/post/how-to-design-an-effective-graphical-abstract-the-ultimate-guide>