

# **Responsible Use of AI/LLMs for Literature Reviews**

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# Overview

- Best Practices for Responsible AI Usage
- Common Tools for Literature Review
- Using NotebookLM
- Do's & Dont's of Using Generative AI

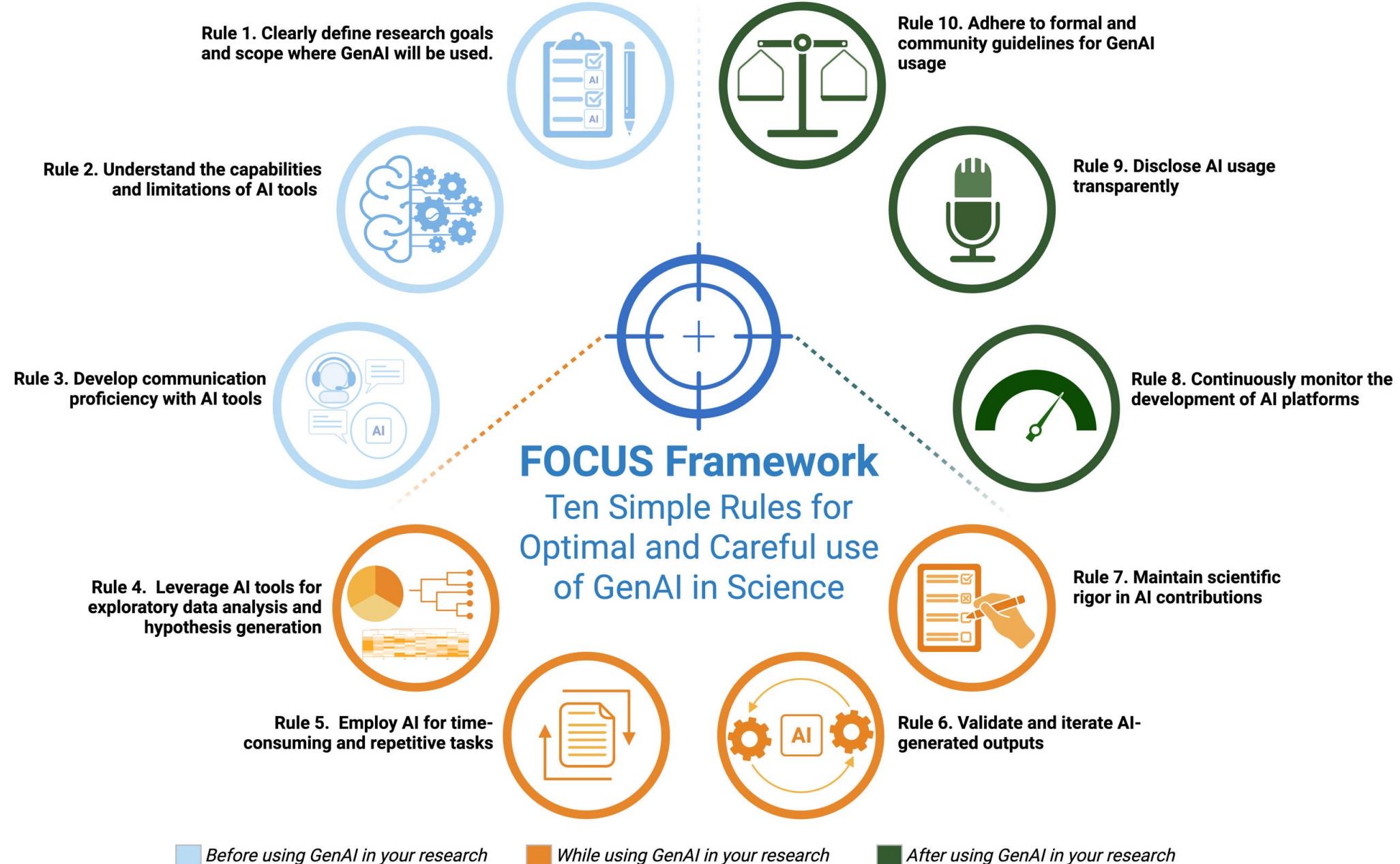
# Best Practices for Responsible AI Usage

- Clearly define research goals and scope where GenAI will be used
- Understand the capabilities and limitations of AI tools
- Employ AI for time-consuming and repetitive tasks
- Do not lose yourself in AI
- Practice FAIR (Findable, Accessible, Interoperable, Reusable) principles

**Ten simple rules for optimal and careful use of generative AI in science**

Mohamed Helmy , Lingling Jin, Amr Alhossary, Tamer Mansour, Diogo Pellagrina, Kumar Selvarajoo

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# Common Tools for Literature Review

- VOSviewer - a software tool for constructing and visualizing bibliometric networks
- CitNetExplorer - a software tool for visualizing and analyzing citation networks of scientific publications.
- Covidence - a systematic reviews production tool for title/abstract screening, full-text screening, data abstraction, and quality assessment
- AI ???
  - Scite ??
  - NotebookLM?

# What is NotebookLM?

- AI-powered research and content organization tool by Google
- Helps users streamline their workflow, enhance learning, and boost creativity by integrating multiple sources like PDFs, websites, mp3s, and videos.
- Free version lets you query up to 50 curated sources
- Generates summaries, FAQs, reports, flashcards, videos, mind maps, and audio “podcasts”



# Examples of Using Notebooklm

- Combine related papers to summarize pathways, mechanisms, or gene functions
- Build lab training guides or protocol FAQs from internal documents
- Create structured literature reviews for grant or manuscript prep
- Produce teaching materials or podcasts explaining technical concepts
- Generate comparative summaries of analytical methods or datasets

# Using NotebookLM Effectively

- Upload high-quality, relevant sources to keep insights accurate and specific
- Use suggested questions to reveal trends or gaps
- Always verify citations before citing or sharing results
- Regularly save the best AI responses into Notes and restructure them manually
- Notebooks can be shared publicly or with others
- Add written/typed notes to help contextual other sources

# Ways It's Being Use at UAB

- CPAM grant
  - Inputting hundreds of variant or gene related papers identify functional associations
- QE prep
- Variant Analysis

# Example: Studying all QE References

The screenshot displays a digital workspace interface with three main panels: Sources, Chat, and Studio.

**Sources Panel:** Contains a sidebar with "Sources" and "Add sources" buttons, a "Try Deep Research" button, a search bar for "Search the web for new sources" (Web and Fast Research dropdowns), and a list of selected PDF files related to Pulmonary Arterial Hypertension (PAH). The selected files include:

- 1953048.2078195.pdf
- Ahsan\_Emerging biologics for the tr...
- Alkahtani\_Heritable Pulmonary Arter...
- Anders\_Moderated estimation of fol...
- Archer\_Pulmonary arterial hypertens...
- Austin\_The Genetics of Pulmonary A...
- Bailly\_Hereditary hemorrhagic telan...
- Beltran\_The RD-Connect Genome-P...

**Chat Panel:** Shows a summary of 142 sources focusing on PAH, its genetic underpinnings, mutations in BMPR2 and ALK1 genes, drug repositioning, AI and machine learning, bioinformatics methodologies, and molecular networks. It includes a "Save to note" button and a search bar for "Start typing...".

**Studio Panel:** Features sections for "Audio Overview" (selected), "Video Overview", "Mind Map", "Reports", "Flashcards", and "Quiz". It also lists recent documents: "Key Driver Analysis for HPAH...", "GRN Refinement with Co...", and "PAH: Genetic to Network-Based...".

**Bottom Bar:** Includes a "Create notebook" button, "Analytics", "Share", "Settings", "PRO", and a user profile icon.

# Do's & Dont's of Using Generative AI

- **Don't** copy and paste from llms into manuscripts.
- **Do** paraphrase.
  
- **Don't** treat AI output as evidence.
- **Do** validate AI results.
  
- **Don't** let automation dictate findings or override domain expertise.
- **Do** use AI to assist reasoning.