

AIR

AI in Research: A framework for transparent and responsible AI use mapped to the research process

		AI bands					Primary risks	Verification
Stage of the research process		A0	A1	A2	A3	A4		
1 Discovery	Explore the field, identify research gaps, define questions, aims & methodological direction	Field exploration & question development without AI	Clarifying terminology, summarising concepts, mapping unfamiliar literature you select, collating notes	Testing research questions, exploring question framing, identifying assumptions & counter arguments	Organising ideas & findings into structures, prioritising potential gaps, drafting plans for human refinement	AI iteratively shapes the framing of the research problem & proposed direction	Hallucinated claims, false consensus, restricting the scope too early	Cross checking against primary sources & disciplinary norms
2 Implementation	Perform the research & collect the data or source material	Data collection or source material collected without AI	Clarifying procedures, refining instruments, improving documentation clarity	Testing alternative protocols, identifying confounding factors, exploring edge cases	Automating specific tasks e.g., transcription, preprocessing, classification or simulations under supervision	AI shapes how data or materials are generated or processed	Automation bias, inappropriate delegation, data integrity	Audit trails, protocol adherence, reproducibility checks
3 Analysis	Analyse & interpret findings, including figures & data visualisation	Analysis & visualisation conducted without AI	Explaining statistical outputs, clarifying assumptions, improving interpretability	Proposing analytic strategies, comparing models, critiquing interpretations	Generating analysis code, cleaning data, producing figures under human review	AI makes analytical decisions or interprets findings directly	Undetected errors, spurious patterns, over interpretation	Reproducibility, sanity checks, independent validation
4 Writing	Prepare the manuscript text, structure & citations	Writing & citation without AI	Language editing, clarity, structure suggestions, tone adjustment, citation suggestions	Argument refinement, reorganisation, anticipating reviewer concerns	Drafting sections from human notes & instructions, generating citation formatted text for checking	AI generates substantial text that persists into the final manuscript	Misrepresentation of contribution, over smoothing, citation errors	Author responsibility for claims, traceable drafting history
5 Publication	Submit the manuscript & navigate peer review & revision	Submission & revision without AI	Improving clarity and tone of cover letters and responses	Analysing reviewer intent, exploring response strategies	Drafting revision plans & response components from human decisions	AI substantively shapes rebuttal logic or revision strategy	Persuasive but inaccurate responses	Evidence backed revisions & documented changes
6 Outreach	Make the work visible & accessible	Outreach without AI	Plain language summaries, accessibility adaptations	Adapting for different audiences, narrative testing	Repurposing content at scale across formats (e.g. blog post, social media, policy brief)	AI drives outreach strategy or narrative positioning.	Overstated claims, misalignment with findings	Consistency with the published record
7 Evaluation	Engage with feedback, metrics & post publication discussion	Human led evaluation & reflection	Summarising feedback & metrics	Highlighting trends, comparing responses, identifying critique themes	Categorising feedback at scale, drafting reflective summaries	AI shapes evaluation narratives or impact claims	Distorted interpretation of impact	Checking claims are proportionate, transparent & backed by evidence

The five AI bands:

A0 No AI: No AI tools are used at this stage.

A1 Assistive support: AI supports comprehension, organisation, clarity or accessibility. All intellectual decisions remain entirely human.

A2 Analytical support: AI is used to explore alternatives, test reasoning, compare options or critique ideas. The researcher evaluates and validates outputs.

A3 Task automation with human control: AI automates specific tasks at scale under human supervision. Outputs are checked, corrected and documented.

A4 Substantial use of AI in the research workflow: AI materially shapes outputs or decisions at this stage through iterative use. This requires the highest level of transparency and verification.

Higher bands are not better. They simply indicate different degrees and types of AI involvement, with increasing responsibility for transparency and checking.

Risk profile

- High risk
- Moderate risk
- Lower risk