

AI Co-Scientist Pilot Program

Melbourne Medical School

Executive Summary

Melbourne Medical School (MMS) is launching a pilot program to support up to 3 research teams in utilizing emerging AI co-scientist tools that offer the potential to automate and accelerate data-driven research discovery. This program offers a unique opportunity to accelerate research timelines, generate novel insights, and establish MMS as a leader in AI-assisted medical research.

AI co-scientist systems represent a novel approach to scientific research, performing iterative cycles of data analysis, literature synthesis, and hypothesis generation. These systems are currently being developed through projects such as [Google's AI Co-Scientist](#), [CSIRO's Sciansa](#), and [Edison Scientific's Kosmos](#), demonstrating the ability to accelerate research workflows and uncover scientific insights that have previously taken months of traditional research.

This pilot program offers the opportunity for up to 3 research teams to receive mentorship in using an AI co-scientist platform in their research while developing best practices for the MMS research community. Teams will be expected to make a small financial contribution towards the cost of the AI co-scientist platform.

About AI Co-Scientist Systems

AI co-scientist systems are advanced platforms designed to work alongside researchers to autonomously conduct elements of the scientific discovery process. These systems combine capabilities in:

- **Automated data analysis** - executing complex analytical workflows across datasets to identify patterns and relationships
- **Literature synthesis** - reviewing and integrating findings from hundreds or thousands of scientific papers
- **Iterative hypothesis generation** - performing multiple cycles of analysis and refinement to develop testable scientific hypotheses

AI co-scientist systems have recently demonstrated the capability to enable novel discoveries across metabolomics, transcriptomics, and other clinical data analysis^{1,2}.

¹ Gottweis et al 2025. Towards an AI co-scientist. <https://doi.org/10.48550/arXiv.2502.18864>

² Mitchener et al. 2025. Kosmos: An AI Scientist for Autonomous Discovery. <https://doi.org/10.48550/arXiv.2511.02824>

About the Program

Program Overview

This program will provide access to mentorship in setting up an AI co-scientist platform to pursue a novel research question. This program has the following goals:

- 1. Generate Novel Research:** Enable teams to identify research directions that can generate publications through AI-assisted exploration of new scientific ideas
- 2. Capture Metrics:** Document and quantify how AI-assisted research can accelerate the traditional scientific process
- 3. Develop Best Practices:** Create a practical guide for MMS researchers on effective AI-assisted research methodologies
- 4. Establish Evidence Base:** Generate case studies to support expanded AI-assisted research programs in MMS

Suitable Research Projects

AI co-scientist technologies are likely well-suited for data-driven biomedical research projects including, but not limited to, the following areas:

- 1. Metabolomics Analysis:** Identifying metabolic pathways, biomarkers, and mechanisms
- 2. Transcriptomics/Proteomics:** Exploring gene expression patterns and molecular signatures across disease states
- 3. Clinical Data Analysis:** Mining clinical datasets for novel associations, risk factors, and treatment predictors

Dataset Requirements

This pilot program is restricted to research projects using publicly available datasets only. This allows research teams to demonstrate the capabilities of AI co-scientist technologies within the short timeframe of the pilot program. Following successful pilot completion, future programs may explore the possibility of analysing non-public datasets with appropriate data governance protocols. Ideal datasets for this pilot AI co-scientist program have the following characteristics:

- High-dimensional datasets requiring exploratory analysis
- Rich metadata enabling multiple analytical approaches
- Appropriate size and format for short duration computational analysis

Note: A dataset is not required to participate in the program, and you may suggest research questions that only rely on literature synthesis.

Program Support and Timeline

What Participants Receive

- Training on AI-assisted research methodologies
- Monthly check-ins with Program Manager over the project period
- Opportunities for collaboration and knowledge sharing with other pilot teams

What is Expected from Participants

- Commitment to the entire program
- Attending training on AI-assisted research methodologies
- Contribution to best practises AI-assisted guide to be shared within MMS
- Teams should be prepared to contribute up to **\$2000 AUD**, if needed, to cover additional AI-assisted research questions, enabling continued testing of the system beyond the initial free allocation.
- Responsibility and review of all AI-generated outputs

Program Timeline

- **Monday 24th November 2025:** Application open
- **Friday 12th December 2025:** Submission deadline
- **January 2026:** Selection notification and team onboarding
- **February 2026:** Initial training and first AI-assisted analysis runs
- **March 2026:** Active research phase with ongoing support and iterative refinement
- **April 2026:** Program evaluation, outcomes documentation, and lessons learned

Selection Criteria

Applications will be evaluated based on the following criteria:

- **Technical Merit (20%):** Quality and importance of research question, feasibility of AI application, and potential for novel insights
- **Team Capacity (20%):** Relevant expertise, appropriate team composition, realistic time commitment, and track record
- **AI Readiness (20%):** Clear understanding of AI capabilities and limitations, with critical evaluation approach
- **Expected Impact (20%):** Publication potential, contribution to MMS capability building, and knowledge sharing commitment
- **Diversity Considerations (20%):** Representation across departments, career stages, and research domains

How to Apply

Interested research teams should complete the AI Co-Scientist Pilot Program Application Form and submit by the application deadline of Friday 12th December 2025.

Contact Information

If you have questions about the program please contact:

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