Journal Models Utilizing Artificial Intelligence and Blockchain

The cases of JCEA and ROSA Journal

ARTIFICIAL INTELLIGENCE

BLOCKCHAIN

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Two technologies, two layers of journal transformation

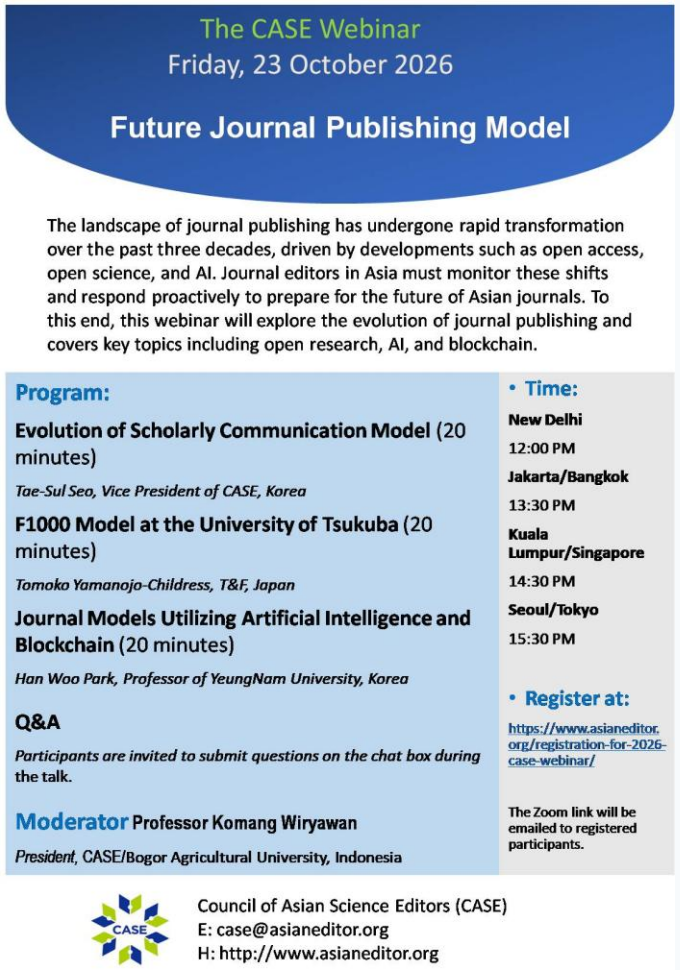
AI changes the work

Search, review support, editorial synthesis, translation and dissemi nation

Blockchain changes the infrastructure

Provenance, preservation, ownership, access and contributor ince ntives

JCEA illustrates the intelligent journal.
ROSA experiments with the decentralized journal.



Wayne Xu's premise: agents differ from chatbots

CHATBOT

Responds to a prompt

One interaction
Limited task continuity
Human coordinates each step

AI AGENT

Pursues a defined goal

Plans a sequence of actions
Uses tools and external sources
Returns evidence for human judgment

Editorial value comes from coordinated tasks, not isolated prompts

An agentic workflow for scholarly publishing

01

Scope check

Fit with JCEA aims, article type and basic r equirements

02

Evidence search

Relevant literature, possible reviewers an d conflicts

03

Simulated review

Blind spots, methodological weaknesses a nd missing evidence

04

Editorial synthesis

Compare reviews and identify points that require judgment

05

Research translation

Prepare accessible summaries for policy a nd public audiences

06

Content operations

Maintain web content and repurpose acce pted research

Human editorial authority

The editor sets the goal, verifie s evidence, resolves disagreem ent and owns the final decision .

No autonomous acceptance

JCEA as a practical testbed for agentic publishing

JCEA already combines regional scholarship with socio-technical and network studies

DISCOVERY

Topic fit
Prior work
Reviewer candidates

EVALUATION

Review synthesis
Method checks
Ethics signals

PUBLICATION

Language support
References
Production checks

CIRCULATION

Multilingual summaries
Policy briefs
Social content

Pilot low-risk assistance first, then expand only after evidence and editorial review

AI can screen for risk—but it cannot confer truth

DETECTION

Paper-mill signals

PDCN combines title text with citation-graph structure.

81.85%
accuracy

80.49%
F1 score

A screening signal—not an accusation

INFRASTRUCTURE AUDIT

Ask three questions

01 Who owns and supplies the system?
02 What does it measure—and omit?
03 How will its outputs shape decisions?

The research infrastructure must itself become an object of editorial scrutiny.

Human review converts machine signals into accountable judgment

Sources:
Zhang, J. et al. (2025). A paper mill detection model based on citation manipulation paradigm. Journal of Data and Information Science, 10(1), 167–187. https://doi.org/10.2478/jdis-2025-0003
Flensburg, S., Lai, S. S., & Ørmen, J. (2025). At the mercy of the objects we study: Epistemic consequences of proprietary digital research infrastructures. New Media & Society, 27(4), 1928–1944. https://doi.org/10.1177/14614448251314397

A three-stage AI roadmap for JCEA

STAGE 1

Assist

Language editing
Formatting checks
Article summaries
Metadata cleanup

STAGE 2

Coordinate

Reviewer discovery
Conflict screening
Review comparison
Revision tracking

STAGE 3

Learn

Workflow analytics
Topic portfolio mapping
Service evaluation
Policy refinement

Decision gates: accuracy · confidentiality · bias · editor approval

GAIDeT reframes AI use as accountable delegation

DELEGATION, NOT AUTHORSHIP

Humans may delegate tasks. Humans retain responsibility.

The taxonomy documents what AI did at macro an d micro levels and specifies human oversight.

- Conceptualization
- Literature review
- Methodology
- Software and automation
- Data management
- Writing and editing
- Ethics review
- Supervision

Suchikova et al. (2025)

Sources:
Suchikova, Y., Tsybuliak, N., Teixeira da Silva, J. A., & Nazarovets, S. (2025). GAIDeT (Generative AI Delegation Taxonomy): A taxonomy for humans to delegate tasks to generative artificial intelligence in scientific research and publishing. Accountability in Research. https://doi.org/10.1080/08989621.2025.2544331

A GAIDeT-informed disclosure model for JCEA

01

Name the system

Model and version used for the delegated t ask

02

Name the task

Select the specific GAIDeT macro and micro category

03

Name the supervisor

Identify the author or collective human resp onsibility

Suggested disclosure

The authors used [system and version] for [delegated tasks] under full human supervision. The authors verified the outputs and retai n full responsibility for the manuscript. The AI system is not an aut hor and bears no responsibility for the final outcomes.

Placement: after the CRediT contribution statement

Sources:
Suchikova et al. (2025), https://doi.org/10.1080/08989621.2025.2544331
GAIDeT Declaration Generator, https://panbibliotekar.github.io/gaidet-declaration/

ROSA applies a Trust Operation System to publishing

TOS — Trust Operation System

Blockchain connects scholarly judgment, execution and reward as an institutional trust layer

IDENTITY	PROVENANCE	EXECUTION	REWARD
Who contributed and u nder what role?	What happened to the research output over ti me?	Which transparent rule s govern access and ve rification?	How can authors, revie wers and editors be re cognized?

ROSA: Research Output as a Science Asset · IPFS-enabled publication

ROSA separates current operations from planned incentives

CURRENT

Open access publication

Free manuscript submission
Peer-reviewed journal
Web and IPFS access
Author-owned copyright

PLANNED

Science coin economy

Submission fees in science coin
Rewards for widely used articles
Compensation for reviewers and editors
Possible paid access to premium data or code

Guardrail: avoid DINO—decentralization in name only

Openness · accountability · shared ownership · inclusion

Sources:
ROSA Journal Fees & Compensation, https://scienceasset.com/journal/rosa/submit/fees-compensation/
Weidener, L., & Spreckelsen, C. (2024). Decentralized science (DeSci): definition, shared values, and guiding principles. Frontiers in Blockchain, 7, 1375763. https://doi.org/10.3389/fbloc.2024.1375763

COMPARISON

JCEA and ROSA transform different parts of the journal

Dimension	JCEA	ROSA Journal
Primary technology	Agentic AI	Blockchain, IPFS and TOS
Main target	Editorial workflow	Institutional trust layer
Immediate value	Search, synthesis and reach	Preservation, provenance and access
Human role	Final editorial judgment	Governance and rule design
Main risk	Error, bias and confidentiality	Complexity, incentives and regulation
Maturity	Proposed staged pilots	Operating journal with planned extensions

AI already writes papers—and AI now reviews them

The central question is how to transform AI-generated outputs into scientific knowledge.

AI EXPLORES

Generates candidate answers and coordinates defined tasks

TOS RECORDS

Connects judgment, execution, provenance and reward

EDITORS VALIDATE

Interpret evidence, set standards and remain accountable

AI generates candidate answers—not scientific truth

JCEA pilots intelligent editorial work. ROSA tests the trust operating system.
Their convergence must remain human-governed.

References:

Park, H. W. (2026). AI-wa nonmun [AI and Academic Papers]. Seoul: CommunicationBooks. ISBN 979-11-430-2771-9.

Park, H. W. (2026). AI sidae-ui dijiteol jasan-gwa silloe-ui unyeongcheje [Digital Assets and the Trust Operation System in the Age of AI]. Seoul: CommunicationBooks.

Suchikova et al. (2025), https://doi.org/10.1080/08989621.2025.2544331

Weiai Wayne Xu, https://www.youtube.com/watch?v=NNDqDukPlls

https://jceasia.org/

https://scienceasset.com/journal/rosa/