CACTUS

Executive Briefing in Washington, D.C.

Reinventing Publishing with Human-AI Collaboration: A Conversation on Peer Review, Reputation, and the Future of Scholarly Communications

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Introduction: Why We Gathered in DC

Our Executive Briefing in Washington, D.C. brought together senior leaders from publishing, editorial operations, research integrity, AI development and strategic innovation. This was not a showcase or promotional exercise; it was a closed, candid conversation about the future of scholarly publishing, specifically, how human expertise and artificial intelligence can work together to strengthen, rather than compromise, the foundations of scientific trust.

The central question we explored: **How do we preserve what makes human judgment irreplaceable while leveraging AI's capacity to handle complexity at scale?**

This gathering created a forum where leaders could speak openly about:

- Real operational pain points in an era of exponential submission growth
- The mounting imbalance between publication volume and reviewing capacity
- The integrity risks accelerating throughout the ecosystem
- The evolving partnership between human insight and machine efficiency
- How meaning, nuance, and contextual understanding remain distinctly human contributions

This document captures what was said, what was debated, what was agreed upon, and what still remains unresolved as we collectively reimagine scholarly publishing.

Before diving into the core discussion, the briefing opened with a framing session led by our CEO, Akhilesh Ayer, followed by a keynote from Professor Mike Grandinetti (Harvard Business School), and later an operational and cultural perspective from Dr. Sarah Tegen of American Chemical Society. Their contributions shaped a collaborative forum where leaders could question, challenge and build upon one another's views. This dialogue-driven format ensured that the conversation evolved organically, grounded in both vision and real-world constraints.

1. Purpose and Premise

Our event was designed as a focused leadership forum to examine the fundamental shift from human-only workflows to 'human-AI' collaborative systems in scholarly publishing, and the pace at which this transition needs to occur.

With research output projected to double from five million articles in 2023 to ten million by 2030, and with reviewer capacity remaining essentially flat, the industry faces an existential question. We cannot simply work harder, we must work differently.

The theme was about finding the optimal balance - identifying where AI enhances human capability, where human judgment remains non-negotiable, and where the combination produces outcomes that neither could achieve alone.

This transition is not merely reactive; it is a strategic opportunity to redesign workflows around what humans do best, supported by AI that allows publishers to keep pace with global scientific growth.

2. Setting the Tone

Akhilesh began by presenting the structural pressures facing the industry. Research submissions are growing exponentially while the number of qualified reviewers and editorial staff cannot keep pace, and in a field where publishing is fundamentally about reputation, this imbalance places increasing pressure on quality, credibility, and timely decision-making.

The credibility of scientific literature is the cornerstone of scholarly publishing. AI's role, therefore, cannot be evaluated solely through efficiency or cost-saving metrics, but in terms of its reputation, impact on trust and scientific reliability.

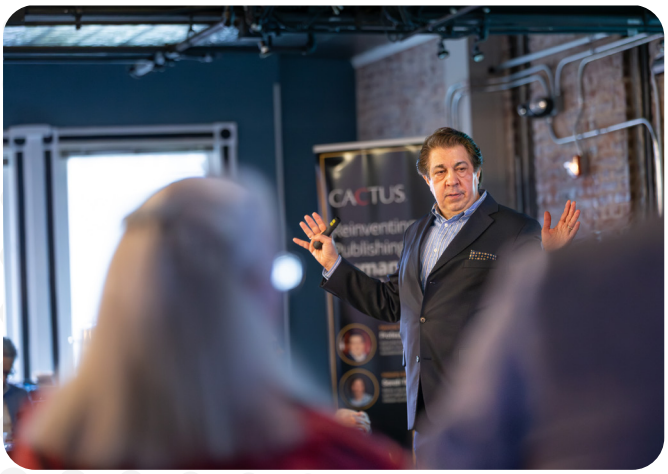
He presented the structural pressures reshaping the industry:

- Research output growing from 1M articles (2020) to 5M (2023) to a projected 10M (2030)
- Reviewer and editorial capacity not scaling proportionally
- Direct consequences: longer timelines, expanded burden, quality-pressure tradeoffs

The 'human-AI' imperative emerges here: AI can process volume, but humans assess credibility. AI can flag patterns, but humans interpret significance. The question becomes how to design collaboration that protects reputation while managing scale.

Akhilesh traced CACTUS' evolution from purely human editorial teams to AI-augmented workflows, emphasizing a critical principle: **AI should amplify human expertise, not replace it**. The most effective systems are those where AI handles mechanical complexity while humans focus on interpretive depth, where machines bring consistency, and humans bring wisdom.

3. Mike Leads the Keynote



Professor Mike Grandinetti broadened the lens, examining AI transformation across industries and drawing lessons for scholarly publishing. He opened with a quote on the pace of progress:

> **"There are decades where nothing happens; and there are weeks where decades happen"**
>
> — *VLADIMIR LENIN*

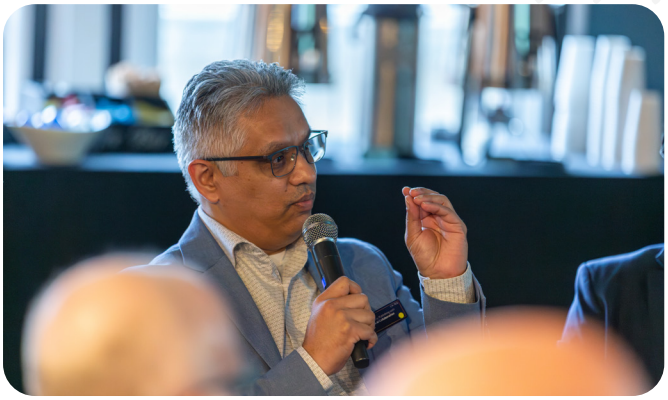
Mike emphasized that **AI adoption in other sectors isn't gradual; it's exponential.** Organizations that wait for "perfect clarity" before acting often find themselves strategically disadvantaged. Yet rushing without governance creates equal risk.

His core argument: The question isn't whether AI will integrate into knowledge workflows, but whether organizations will shape that integration intentionally or react to it defensively. Those who begin adoption now will set the standards the rest of the ecosystem follows.

Key insight on 'human-AI' collaboration: Mike noted that the most successful AI implementations across industries share a pattern; they elevate human roles, rather than eliminating them. Radiologists using AI don't make fewer decisions; they make better ones. Customer service teams using AI don't interact less with customers; they handle more complex issues with greater context.

The parallel for publishing: **AI should free editors from administrative burden to focus on the scientific and ethical dimensions that truly require human interpretation.** The goal is creating space for the judgment that only experienced humans can provide.

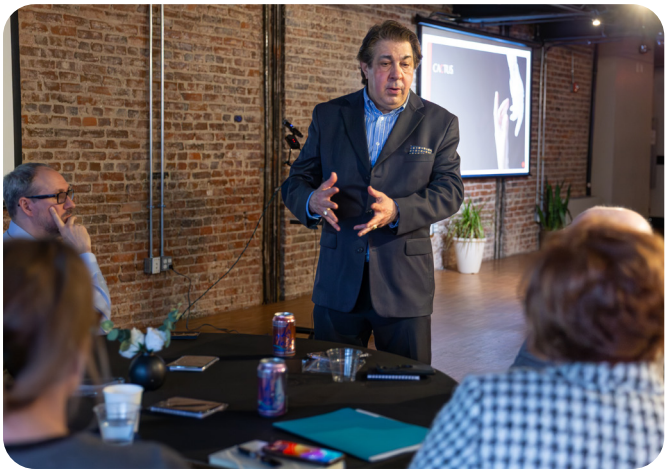
4. Real-Time Discussion: Where Human Insight Remains Essential



Following the keynote, attendees shared lived experiences from their institutions. Several themes emerged that illuminated the boundaries between human and machine capability:

- **Human contribution:** Humans bring the capacity to recognize when patterns are problematic, not just when they're efficient. AI optimizes for past success; humans question whether past success was equitable. This requires the kind of contextual awareness and ethical reasoning that remains distinctly human.
- **The Over-Reliance Risk:** A concern arose: as AI tools become highly accurate at routine tasks, human vigilance may inadvertently decrease. One editor noted, "The better AI gets, the more we trust it and that's exactly when we need to stay most engaged."
- **'Human-AI' balance:** The solution isn't rejecting automation but designing checkpoints where human review is structurally required. AI can pre-screen, but humans must validate. AI can flag anomalies, but humans must investigate.
- **Bias and Systemic Reinforcement:** Participants raised concerns that AI trained on historical publishing data may perpetuate existing biases around subject prioritization, authorship patterns, institutional influence, and language norms.
- **Mass Submission Exploitation:** Concrete examples emerged of individuals using AI to generate and submit extraordinary volumes; one documented case exceeded ninety submissions from a single author. This represents a qualitative shift: AI enables production that exceeds human capacity to create.
- **Human necessity:** Detecting AI-generated content increasingly requires human judgment about plausibility, coherence, and scientific contribution. Machines can spot statistical anomalies; humans recognize when something is technically correct but substantively hollow.
- **Integrity Strain:** Attendees shared examples where authors fabricated consent forms; reviewers falsely volunteered, and affiliations were misrepresented.
- **Irreplaceable human role:** While AI can flag inconsistencies – understanding intent, evaluating context, and making judgment calls about good faith versus misconduct requires human reasoning and experience. These are interpretive acts, not computational ones.

5. The Optimal Division of Labor



A powerful consensus emerged around a clear principle: AI should handle what machines do well, so humans can focus on what only humans can do well.

AI Excels At:

- Identifying formatting defects and technical errors
- Processing large volumes quickly
- Maintaining consistency across checks
- Highlighting potential flags for review
- Organizing and structuring information
- Pattern recognition across datasets

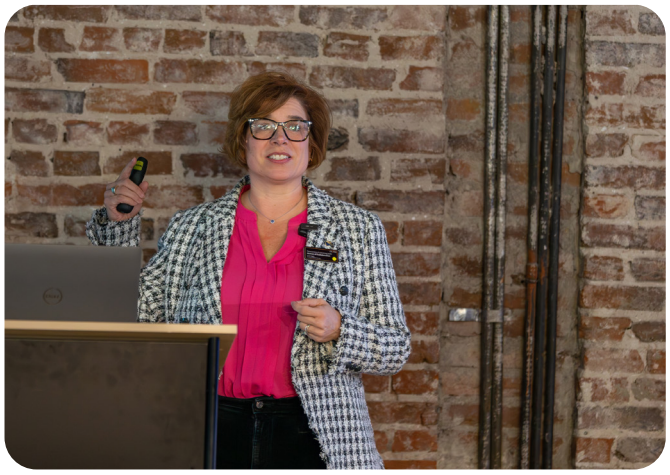
Humans Remain Essential For:

- Contextual interpretation and nuanced reading
- Evaluating scientific novelty and significance
- Applying ethical reasoning to complex scenarios
- Making judgment calls on ambiguous cases
- Bringing lived experience to edge cases
- Accepting accountability for decisions

The collaboration model: AI reduces the burden of mechanical review, creating capacity for humans to engage in deeper evaluation. A manuscript that once took 40 minutes to process (with 30 minutes on technical checks and 10 on scientific merit) might take 15 minutes in a 'human-AI' system with 5 minutes on AI-flagged technical issues and 10 minutes on substantive scientific assessment.

The result is a system where AI streamlines routine evaluation, allowing human experts to devote their time and judgment to substantive scientific and ethical assessment.

6. Cultural Integration



Dr. Sarah Tegen emphasized that successful 'human-AI' collaboration depends on more than just technology, it requires cultural readiness:

"The tools are ready. The question is whether our teams are ready."

She highlighted several critical dimensions:

- **Editorial teams must evolve their workflows alongside AI:** Tools deployed without process redesign create confusion, not efficiency.
- **Staff must be educated, not forced:** People resist what they don't understand. Training builds confidence; mandates build resistance.
- **Transparency is non-negotiable:** When AI influences decisions, everyone involved must know how and why.
- **Quality measurement must evolve:** Metrics designed for human-only workflows may not capture value in hybrid systems.

Sarah's central point: **AI integration is as much about human adoption as technical deployment.** Leaders who create transparency, training pathways, and psychological safety will see teams embrace AI as an enhancer of their professional contributions, not a threat. Organizations that begin this cultural work now will be better positioned to innovate responsibly, rather than rushing to catch up later.

'Human-AI' synergy in practice: She described scenarios where editors initially feared AI would diminish their role but discovered it allowed them to engage more deeply with manuscripts. By automating reference checks, AI created time for editors to focus on scientific argumentation, work they found more intellectually satisfying and professionally meaningful.

7. Areas of Productive Debate

The group explored several areas where thoughtful practitioners hold different views, reflecting strategic complexity:

PACE OF ADOPTION:

- Some advocated rapid experimentation to learn quickly
- Others argued for deliberate deployment to minimize risk
- **Synthesis:** The right pace likely varies by use case, faster for low-risk automation, slower for high-stakes judgment

USE OF EXTERNAL AI MODELS:

- Some organizations currently permit tools like ChatGPT
- Others restrict external models due to content protection concerns
- **Common ground:** Institutional context matters, risk tolerance differs

AI IN FRAUD DETECTION

- Some believe AI will be essential for identifying sophisticated misconduct
- Others worry bad actors will adopt AI faster than detection systems evolve
- **Emerging view:** This becomes an arms race requiring continuous adaptation

These divergent perspectives enriched the conversation, demonstrating that reinventing publishing means holding space for multiple valid approaches while learning collectively. **What unites all positions is the recognition that 'Human + AI' collaboration is no longer theoretical; it's an emerging reality we must shape together.**

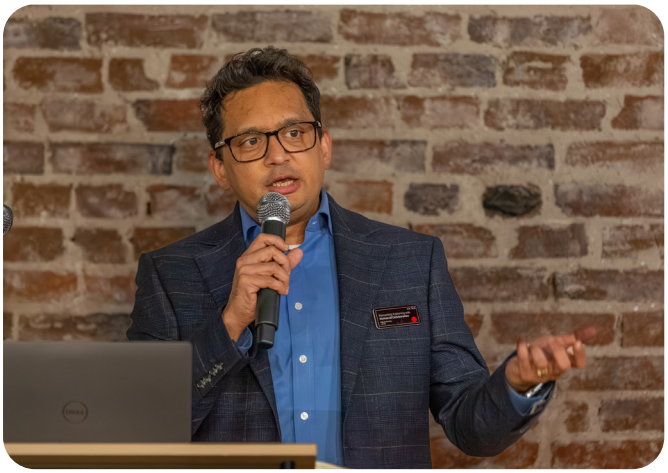
8. Post-Event Survey Insights

Our post-briefing survey revealed a strong consensus that AI integration in scholarly workflows is both urgent and necessary.

One respondent shared, "I feel, more than ever, that we must integrate AI into scholarly publishing, and that time is of the essence. I came away with some very practical ideas." Participants also highlighted the value of the event format itself "I liked the format that allowed for lots of discussion to see how people were addressing these issues in practice."

Another respondent noted that the "intimate nature of it allowed for really good networking and interesting conversations." These reflections reinforce that the briefing successfully combined strategic perspective, practical guidance and meaningful peer-to-peer exchange.

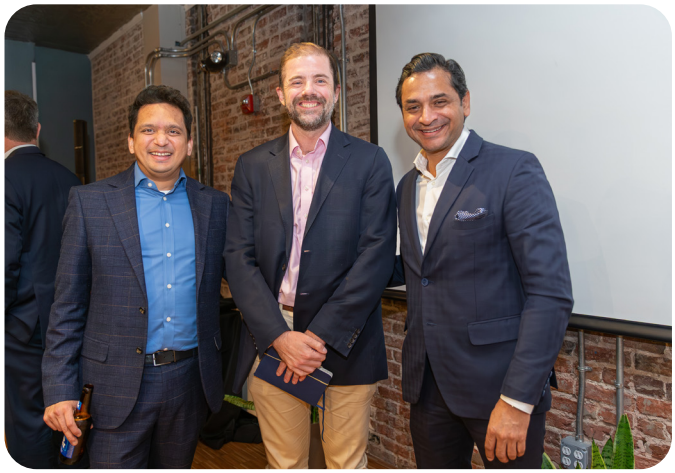
9. Key Principles for Human-AI Collaboration



From the combined presentations, experiences and debates, several guiding principles crystallized:

1. **Human judgment must remain central:** Particularly for interpretation, ethics, and accountability
2. **Governance frameworks must be established:** Defining roles, responsibilities, and boundaries
3. **Training and literacy must be prioritized:** People cannot collaborate with tools they don't understand
4. **Validity and integrity concerns must be anticipated:** Not just detected after problems emerge
5. **Content protection is critical:** especially when using external AI services
6. **Workflows must be redesigned,** not simply automated versions of old processes
7. **Reputation remains the industry's most valuable asset,** every AI decision must be evaluated through that lens
8. **Complementarity is the goal:** Systems where 'human-AI' collaboration produces results better than either could alone, opening doors to quality, scale, and innovation that were previously unattainable.

10. Conclusion: The Partnership Imperative



The briefing demonstrated that scholarly publishing stands at an inflection point. AI has already entered the ecosystem. The question is no longer whether to collaborate with AI, but how to do so in ways that strengthen rather than compromise scientific integrity.

This is not about disruption for its own sake. It is about **leadership choosing to shape the future**, rather than letting the future happen to the industry.

The challenge is designing the right partnership: one where AI manages complexity at scale while humans preserve the interpretive, ethical, and contextual intelligence that makes scientific communication meaningful. Where machines bring consistency and

humans bring wisdom. Where AI handles volume and humans ensure value.

The future of publishing will not be determined by technology alone, but by the thoughtfulness with which leaders implement it. The most successful organizations will be those that recognize a fundamental truth: the goal is to enhance human capability through intelligent collaboration.

What emerged clearly in Washington, D.C. is that this is not a distant future, it is the present we are actively creating. The choices we make on how humans and AI work together will shape trust, integrity, and credibility in scientific publishing for generations and the organizations that start learning now will lead that future.

We look forward to continuing these essential conversations in gatherings across the globe, as we collectively reinvent publishing through 'human-AI' collaboration.

CACTUS®

CACTUS has supported scholarly communication for over two decades, evolving from human-powered editorial services to 'human-AI' collaborative systems that preserve what matters most: the judgment, integrity, and expertise that only humans can provide.

We continue to work with publishers, societies, and research organizations worldwide to build responsible, scalable, and transparent solutions for the future of academic publishing.

Feel free to reach out to us at connect@cactusglobal.com or visit www.cactusglobal.com