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Eureka: Launching an International Interdisciplinary Journal

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Since the beginning of the 2020s, as transformative paradigm shifts have occurred almost simultaneously in artificial intelligence (AI), life science, physics, and materials science, it has become increasingly clear that the scientific challenges humanity faces can no longer be addressed within the confines of any single discipline. In an era of unprecedented global challenges, interdisciplinary research that breaks through traditional disciplinary boundaries is certain to become the cornerstone for the next generation of scientific breakthroughs. From disease diagnosis and treatment, climate governance, and energy restructuring to the development of intelligent systems, solving grand challenges requires integrative perspectives and methodologies, particularly through the integration of advanced AI methods.

From deep learning-based protein structure prediction (Bryant et al., 2022; Jumper et al., 2021) to multimodal foundation models driving medical decision-making (Jiang et al., 2024; Niu et al., 2025; Wang et al., 2024, 2025), from computational urban ecology (Weisser et al., 2023) to experimental intersections of quantum physics and AI (Jiao et al., 2024), the conclusion is clear that interdisciplinary integration has evolved from an aspirational vision into a practical necessity for scientific progress.

Against this backdrop, we launch ***Eureka***, an international interdisciplinary journal for the global scientific community. We believe that ***Eureka*** should not only signify the moment of discovery, but also the beginning of knowledge integration and meaningful cross-disciplinary collaboration.

1. The New Era of Interdisciplinary Convergence: Deeper and Deeper

Looking back, it is not difficult to observe that the evolution of human scientific history has always been accompanied by interdisciplinary convergence. From the integration of medicine and physics that gave rise to medical imaging (Beyer et al., 2021), to the collaboration between neuroscience and psychology that advanced brain-computer interface technologies (Amunts et al., 2019) and other cognitive psychological applications (Demszky et al., 2023; Wang & Nie, 2024, 2025), interdisciplinary fields have not only fostered the emergence of new knowledge, but have also continuously expanded the boundaries of scientific inquiry.

In today's era of foundation models, we are witnessing the upgrade in interdisciplinary research: AI no longer merely serves other disciplines—it is now co-constructing entirely new research paradigms and methodological frameworks with them (Ali, 2023; Radanliev, 2024; Xu et al., 2021). The success of AlphaFold (Jumper et al., 2021), for example, was not solely driven by advances in AI algorithms, but rather

emerged from the synergy of structural biology, physical modeling, computational power, big data, and deep learning.

Thus, we are entering a stage of deep interdisciplinarity, which involves not merely the combination of techniques from multiple domains, but the profound integration of paradigms, languages, and ontologies. ***Eureka*** seeks to promote this kind of research, not as a simple assemblage of collaborative efforts, but as problem-driven innovation grounded in multiple disciplinary logics and methodological frameworks.

2. A New Responsibility for the Scientific Community

With the rise of AI-generated content (Foo et al., 2025; Wang et al., 2023), complex systems decision-making (Mustață et al., 2025), and data-intensive scientific discovery (Clauset et al., 2017; Floryan & Graham, 2022; Li & Guo, 2025), the scientific community must also reflect on its organizational structures and evaluation mechanisms. Traditional discipline-based research assessment frameworks may no longer accommodate the emerging paradigms of future science.

Eureka advocates the following three principles as the foundation of our new academic values: first, problem-driven inquiry over discipline-driven agendas; second, deep integration over mere aggregation of tools; and third, open collaboration over siloed disciplinary work.

We aim to become a scholarly platform that embraces methodological heterogeneity, supports the co-construction of theory and empirical work, and emphasizes the importance of human-centered technology. We believe that promoting interdisciplinary research is not only essential for scientific progress, but also a necessary foundation for global sustainable development (Raj et al., 2024; Vaverková et al., 2024).

3. The Mission and Vision of *Eureka*

The word ***Eureka***, famously attributed to the ancient Greek philosopher Archimedes, originally captured a moment of sudden insight (Michel, 2022). Today, we hope it symbolizes not only the thrill of discovery, but the beginning of constructing new systems of knowledge.

The ***Eureka*** journal is founded with the aim to: gather original research that addresses complex challenges through interdisciplinary approaches; encourage novel combinations of theory and methodology to drive cross-domain innovation; build bridges between basic science, engineering, clinical practice, and societal impact; and establish an inclusive evaluation and dissemination framework that embraces multi-source knowledge and multidimensional standards.

To achieve these goals, we are assembling an editorial board composed of researchers from diverse global backgrounds and disciplinary domains—including the natural sciences, engineering, and health sciences. Through a rigorous double-blind peer review process, an efficient publication pipeline, and a global dissemination network, we strive to ensure that every contribution from the frontiers of interdisciplinarity is treated with fairness and communicated with impact.

We warmly invite researchers, engineers, thinkers, and practitioners from all domains to join us in building a scholarly platform centered on problems and shaped by convergence. Whether you come from an established

discipline or an emerging field yet to be named, ***Eureka*** is committed to amplifying your voice, rigorously evaluating your work, and fostering resonance across fields for your ideas.

Together, we must advance interdisciplinary fusion and collective inquiry to address the most pressing scientific and societal challenges of our time.

Eureka is not just about finding—it is about bridging. ***Eureka***, not merely a cry of discovery, but the beginning of connection.

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