



## Editorial

# Advancing Human Health Through the Lens of *Gene Expression*



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In an era of rapid scientific and technological progress, the intersection of biology, medicine, and technology has become more pivotal than ever. Central to this convergence is the study of gene expression—a field that deciphers how genetic information is transcribed, translated, and regulated within living organisms. *Gene Expression*, an open-access journal with a rich history and an evolving mission, serves as a vital platform for disseminating groundbreaking research that bridges fundamental biology and translational medicine. Since its inception in 1991, the journal has upheld a steadfast commitment to fostering innovation, rigor, and collaboration in areas that directly impact human health.<sup>1,2</sup>

### The mission: a dynamic interface of disciplines

The mission of *Gene Expression* is both ambitious and profoundly essential in today's biomedical landscape: to advance human health by sharing research that integrates diverse Life Science disciplines. This multidisciplinary approach reflects the complexity of modern medical challenges, from deciphering the intricacies of gene regulation to developing novel therapies for diseases that defy current treatments.

The journal has established itself as a nexus for scientists, clinicians, and academics seeking insights into the molecular underpinnings of human diseases. By focusing on cellular and molecular mechanisms, *Gene Expression* ensures its research is relevant not only to basic science but also to translational applications. The journal covers a broad spectrum of healthcare topics, including cardiovascular diseases, cancer, neuroscience, infectious diseases, and aging—areas that collectively place a significant burden on global health systems.

### A legacy of scientific rigor and evolution

Launched in 1991 by the Chicago Medical School Press and later acquired by Cognizant Communication Corporation, *Gene Expression* has continually evolved to remain at the forefront of

scientific communication. Its transition to Xia & He Publishing Inc. in August 2022 marks a significant milestone, signifying a renewed commitment to expanding the journal's reach and fostering global collaboration in a rapidly changing publishing landscape.

As an open-access journal, *Gene Expression* ensures cutting-edge research is accessible to a broad audience, from seasoned researchers to aspiring students. This democratization of knowledge is critical in an age where equitable access to information can catalyze innovation, particularly in regions where resources are limited but intellectual curiosity abounds.

### Bridging basic science and translational medicine

The strength of *Gene Expression* lies in its ability to bridge basic science and translational medicine. The journal recognizes that the journey from bench to bedside is often arduous, requiring a deep understanding of fundamental biological processes and their implications for human health. By publishing high-quality original research, reviews, and commentaries, it highlights the continuum of discovery—from unraveling molecular pathways to designing targeted therapies.

A distinguishing feature of *Gene Expression* is its emphasis on human biology and disease. This focus is evident in its diverse content, which spans investigative studies on human cellular mechanisms and research on animal models offering insights into treatment strategies. For instance, studies on cardiovascular disease often delve into the genetic and molecular basis of conditions such as atherosclerosis, laying the foundation for precision medicine approaches. Similarly, cancer biology research in the journal elucidates the role of epigenetics and regulatory RNAs in tumor progression, paving new avenues for therapeutic intervention.

### Interdisciplinary research: a necessity for modern science

The challenges posed by diseases such as diabetes, neurodegeneration, and emerging infectious diseases demand interdisciplinary solutions. *Gene Expression* embraces this reality by promoting research that integrates diverse methodologies, including omics technologies, epigenetics, and integrative data analysis. By fostering collaboration across disciplines, the journal ena-

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bles researchers to tackle complex problems with innovative approaches.<sup>3–5</sup>

For example, studies employing integrative omics analyses can identify biomarkers that serve as early indicators of disease or predictors of treatment response. This is particularly valuable in oncology, where timely and precise interventions significantly improve patient outcomes. Similarly, using animal models to study human diseases provides critical insights into pathophysiology and therapeutic efficacy, bridging gaps between preclinical research and clinical trials.

### Fostering dialogue through perspectives and reviews

In addition to original research, *Gene Expression* enriches scientific discourse with Perspectives and Reviews that synthesize current knowledge and offer forward-looking insights. These articles are particularly valuable for contextualizing emerging trends and identifying gaps in understanding. For instance, reviews on the role of immunology in vaccine development provide comprehensive overviews of how advances in molecular biology are shaping public health strategies.

The journal also serves as a forum for discussing the ethical, regulatory, and societal implications of biomedical research. With the advent of gene-editing technologies like CRISPR-Cas9, debates surrounding the responsible use of such tools have gained prominence. By including thoughtful commentaries on these topics, *Gene Expression* fosters a balanced and informed dialogue that considers the broader impact of scientific advancements.

### Special issues: addressing current challenges in biomedicine

A hallmark of *Gene Expression* is its publication of special issues focusing on timely and critical topics in translational biomedicine. These comprehensive collections bring together leading experts to address complex issues such as the molecular mechanisms of aging or the development of vaccines. By curating content that reflects the urgency and importance of these challenges, the journal not only informs the scientific community but also guides future research directions.

### The future of *Gene Expression*: opportunities and challenges

As *Gene Expression* looks to the future, several opportunities and challenges lie ahead. The rapid pace of scientific discovery necessitates an adaptive approach to publishing, one that accommodates emerging technologies and methodologies. For instance, advances in artificial intelligence and machine learning are transforming how researchers analyze complex datasets, offering new insights into gene expression patterns and their clinical relevance.

However, the journal also faces challenges, particularly in maintaining rigorous peer review and ensuring the reproducibility of published research. In an era of increasing publication pressures, upholding the highest standards of scientific integrity is paramount. *Gene Expression* is well-positioned to address these challenges by leveraging its legacy of excellence and its commitment to fostering collaboration among diverse stakeholders.

### Conclusion: a platform for progress

In its more than three decades of existence, *Gene Expression* has carved out a unique niche in the scientific publishing landscape. By providing a platform for high-quality, peer-reviewed research, the journal not only advances our understanding of the molecular basis of human health and disease but also drives the development of innovative therapies and interventions. Its mission—to bridge the gap between basic science and translational medicine—resonates more strongly than ever in a world where scientific discoveries hold the key to addressing global health challenges.

As the journal continues to evolve under the stewardship of Xia & He Publishing Inc., its commitment to accessibility, interdisciplinarity, and scientific rigor ensures that it will remain at the forefront of biomedical research. For researchers, clinicians, and policymakers alike, *Gene Expression* is not just a journal—it is a vital resource for shaping the future of human health.

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### Conflict of interest

Prof. Amancio Carnero and Prof. Hua Wang are the Editors-in-Chief of *Gene Expression*. The authors have no other conflicts of interest to declare.

### Author contributions

Manuscript writing (AC), reviewing, and revising (AC, HW). Both authors have approved the final manuscript.

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