

Welcome to *BIO Integration* 2025: Embracing a New Era in Biomaterials and Clinical Therapy

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As we enter the promising year of 2025, we are excited to unveil a new chapter in the journey of *BIO Integration* (*BIOI*), highlighted by a fresh cover design (Figure 1). Significant achievements have marked the past year. Specifically, the Cite Score has reached 5.4 and *BIOI* ranked 86th in the field of general medicine. This accomplishment is a testament to the continuous progress and growing recognition of *BIOI* within the academic community.

Last year was marked by significant milestones and groundbreaking research. The Nobel Prize in Physiology or Medicine was awarded for pioneering work on microRNAs (miRNAs), underscoring the immense potential of these small molecules in understanding and treating diseases [1]. However, the instability of miRNAs outside of cells continues to pose a challenge.

Combining biomaterials and bioengineering may prove beneficial in supporting clinical application. Additionally, bioinformatics or AI can facilitate the identification of specific miRNA functions and targets under pathologic conditions and elucidate the underlying biological mechanisms. This serves as a notable example of the niche occupied by *BIOI*.

In this context, Fu et al. [2] published a high-quality original article in *BIOI* last year regarding CIRCAS2 activation of HSA-MIR508-3P in glioma cells, which regulates RPL23 and subsequently impacts MMP9 expression. This work was particularly creative and represents the high-quality submissions that *BIOI* continues to attract and which contributes to advances in the field of biomedicine.

As we move forward we would like to take a moment to acknowledge the invaluable contributions of our outgoing Editorial Board members. Their dedication and hard work have been instrumental in shaping *BIOI* into what it is today. At the same time, we warmly welcome our

new Editorial Board members, who bring fresh perspectives and renewed energy to our team. Together, we are ready to build on the strong foundation laid by our predecessors who work collectively to elevate *BIOI* to new heights. To maintain engagement and excellence, we will implement a transparent rotation mechanism with term renewals tied to innovative contributions. This process will ensure an open channel for continuous feedback. These initiatives aim to foster sustained enthusiasm among members, while ensuring that our editorial rigor aligns with the evolving vision of *BIOI* as an interdisciplinary platform.

In 2025 our thematic focus will centre on the integration of biomaterials with clinical therapy, reflecting the latest trends and ongoing advances in the biomedical field. We are excited to announce that *BIOI* will explore a wide range of topics that not only highlight recent progress in biomedicine but also demonstrate our commitment to fostering interdisciplinary research and applications. Key areas of focus will include AI in biomedicine [3], organoids [4], and bioactive materials [5] (Table 1). These topics represent the cutting edge of biomedical research and exemplify the interdisciplinary nature of *BIOI*. The topics align with the continuous evolution in the biomedical field, where innovation and collaboration are essential drivers of progress. Building on this foundation, we will actively seek submissions in these dynamic areas throughout the new year and organize special issues to curate outstanding manuscripts that challenge the boundaries of current scientific knowledge.

Our goals for *BIOI* in 2025 are ambitious yet attainable. We aspire to establish *BIOI* as one of the top three journals in biomaterials and related fields. By the end of the year we aim to secure indexing in high-impact databases, such as Web of Science (WOS), Engineering

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Figure 1 The *BIO Integration* cover (2025) features a DNA double helix surrounded by nanostructures and set against a backdrop of mountainous terrain. The iconic spiral is surrounded by several spherical nanoparticles. This imagery symbolizes the focus of *BIOI* on integrating advanced biomaterials and biotechnologies, reflecting the convergence of natural biological elements with engineered solutions to address complex medical challenges. This visual metaphor highlights the commitment of *BIOI* to foster interdisciplinary research and innovation in the biomedical field.

Index (EI), and PubMed Central (PMC). To achieve these objectives, we will ensure the following: continue to invite high-quality submissions; organize special issues and thematic explorations; enhance international collaboration; promote publications and increase the citation frequency through strategic advocacy at international academic platforms; produce video introductions for featured articles; and engage with high-visibility WeChat public accounts for wider dissemination.

In our pursuit of excellence we will implement a rigorous quality control process for article selection, aiming for a rejection rate of approximately 80%. This threshold ensures that only the most outstanding research is published in *BIOI*. To enhance our commitment to timely and impactful research, we will establish a 72-h rapid pre-review channel for authors. We are dedicated to improving article quality through thorough post-production processing, ensuring that each publication meets and exceeds top-tier scientific journal standards. Additionally, we will invite world-renowned scholars to provide expert

commentary on current hot-topic research, fostering a deeper understanding and discussion within the global scientific community. These efforts will showcase contributor innovations, bridge the gap between research and clinical applications, and solidify the position of *BIOI* at the forefront of biomedical advancements.

We invite all researchers, clinicians, and industry professionals to join us on this exciting journey. Your contributions are the lifeblood of *BIOI* and we rely on your expertise and innovation to continue advancing bioscience and biomedical research. We encourage you to submit your latest research, review our articles, and engage with us at conferences and online platforms. Together, we can create a future where biomaterials and clinical therapies are seamlessly integrated, leading to better health outcomes for people worldwide.

We would like to express our heartfelt gratitude to all our authors, reviewers, editors, and readers for their unwavering support and dedication. It is your commitment that drives our continuous improvement and success. We also extend

Table 1 Overview of Advanced Biomaterials and their Diverse Applications in Biomedicine Integration, Highlighting Key Focus Areas and Sub-topics

Category	Sub-topics	Key Focus
Absorptive Materials	Enhancing Efficacy and Safety	Medical Devices and Therapies
Biomaterials & Tissue Regeneration	Macrophages and Neutrophils	Microenvironment Regulation, Immune Cell Modulation
Organoids and Biomaterial Development	Disease Modeling and Drug Screening	Personalized Medicine
3D and 4D Printing	Techniques and Biomaterials	Biofabrication and Biocompatible Materials
Gene Programming Delivery	mRNA, miRNA, and siRNA	Nanomaterials and Therapeutic Delivery
Graphene-derived Biomaterials	Unique Properties	Biomedical Applications
Biological Vesicles	Exosomes and Liposomes	Intercellular Communication and Therapeutic Carriers
Biological Nanozymes	Development and Characterization	Therapy and Enzyme-like Activities
Metal Nanomaterials	Properties and Applications	Medicine and Nanoparticles
Hydrogel Materials	Tissue Repair	Tissue Engineering and Regeneration
Liquid Metal Biomaterials	Unique Properties	Biomedical Applications
Stem Cells and Biomaterials	Synergistic Effects	Tissue Regeneration and Therapy
Porous Biomaterials	Drug Delivery and Tissue Engineering	Biomedical Applications
Smart Release Materials	Controlled Release	Therapeutic Agents and Targeting
Microfluidics and Nanomaterials	Synthesis and Manipulation	Nanomaterials and Microfluidics Advancements
AI-assisted Material Design	Optimization	Specific Applications and Biomaterials
Material Regulation of Biological Rhythms	Influence on Rhythms	Therapeutic Potential
Quantum Dot-derived Biomaterials	Unique Properties	Biomedical Applications
Targeted Nanomaterials	Selective Targeting	Therapeutic Purposes and Cells/Tissues
Microneedle Biomaterials	Drug Delivery	Biomedical Applications
Antimicrobial Materials	Combating Infections	Patient Outcomes
Anti-tumor Materials	Delivery, Targeting, and Immune Sensitization	Cancer Therapy, Drug Delivery, and Immune Response
Tissue Regeneration Materials	Advanced Materials	Bone and Skin Tissue Regeneration
Acellular Scaffold Materials	Tissue Engineering	Regeneration and Acellular Scaffolds
Electrochemical Materials	Properties and Applications	Biomedicine
Biomaterial Regulation of Mechanotransduction Pathways	Cellular Mechanotransduction	Therapeutic Potential
Multi-omics Exploration of Biomaterials	Integrating Approaches	Therapeutic Mechanisms and Biomaterials

our thanks to our outgoing Editorial Board members for their invaluable contributions and welcome our new members with open arms.

Here's to a fruitful and transformative 2025 at *BIOI*! Let us work together to explore the unknown, create possibilities, and make a lasting impact on biomedicine.

Conflict of interest

Zhiwen Luo is Executive Editor of *BIO Integration*, Chaozong Liu and Pintong Huang are CO-Editors-in-Chief of *BIO Integration* and Zhiyi Chen is the Founding Editor of *BIO Integration*.

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