



Bridging the nano-bio gap: a new home for translational research

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A LETTER TO THE GLOBAL COMMUNITY

There are moments in a scientific field when the weight of what has been achieved meets the urgency of what remains undone. For nanomedicine, that moment is now.

Over the past two decades, I have had the privilege of witnessing - and contributing to - the remarkable evolution of our discipline. From my early days as a postdoctoral researcher at the University of Michigan, through my years at Donghua University, and in my ongoing collaborations with colleagues in Portugal and beyond, one truth has become increasingly clear: we are generating knowledge faster than we are translating it into healing.

This observation is not a criticism of our collective efforts. On the contrary, it is a testament to the extraordinary creativity and productivity of the nanomedicine research community. With over 500 peer-reviewed publications, over 130 issued patents, and a citation record that speaks to the impact of our work, I have seen firsthand how our field has flourished. Yet, I have also sat with clinician colleagues who ask a deceptively simple question: “Where are the drugs?”

It is in answer to that question - and in solidarity with the patients who await better therapies - that *Nanomedicine Therapeutics* is born.

WHY THIS JOURNAL? WHY NOW?

The statistics are sobering. For all the thousands of publications describing nanoparticles for cancer therapy, only a handful have achieved regulatory approval. Major initiatives, funded for over a decade with hundreds of millions of dollars, have generated extraordinary science but far fewer clinical products than anticipated. The gap between “bench” and “bedside” is not merely a metaphor - it is a canyon that demands a dedicated bridge.

Our field faces several persistent challenges:



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- The reproducibility crisis: Many promising nanomedicine platforms cannot be scaled or manufactured with the consistency required for clinical use.
- The complexity barrier: Biological systems are messy, heterogeneous, and unforgiving. The enhanced permeability and retention (EPR) effect, long a cornerstone of tumor-targeted nanomedicine, varies dramatically across patients and pathologies.
- The regulatory fog: Nanomedicines exist at the intersection of drugs, devices, and biological products, creating uncertainty in the regulatory pathway.
- The statistical mirage: Preclinical studies often rely on underpowered designs and overinterpreted results, creating false confidence that dissolves in the harsh light of clinical trials.

These are not reasons for despair - they are calls to action. *Nanomedicine Therapeutics* is founded on the conviction that these challenges are solvable, but only if we create a dedicated space for the kind of science that addresses them directly.

OUR IDENTITY: WHAT WE STAND FOR

Nanomedicine Therapeutics is not another “nanotechnology journal”. It is a journal focused exclusively on therapeutics. The “nano” prefix describes our tools, but “therapy” describes our purpose. We are interested in nanoparticles not because they are small, but because smallness can be harnessed to solve large problems: drug resistance, off-target toxicity, biological barriers, and the complex pathophysiology of human disease.

Our scope is intentionally focused. We seek research that:

- Addresses specific therapeutic challenges in oncology, inflammatory diseases, infectious diseases, neurodegeneration, and regenerative medicine.
- Demonstrates clear translational potential, whether through robust preclinical validation, innovative manufacturing approaches, or thoughtful regulatory strategy.
- Embraces multidisciplinary collaboration, bringing together materials scientists, pharmacologists, clinicians, and regulatory experts.

We are particularly interested in work that moves beyond “proof-of-concept” to address the “how” of translation - how to scale, how to control quality, how to predict in vivo behavior, how to demonstrate safety, how to prove efficacy.

OUR VISION: NANOMEDICINE THAT HEALS

The vision for this journal is both ambitious and intimate. Ambitious, because we aspire to help reshape the trajectory of an entire field. Intimate, because our ultimate concern is the individual patient - the person waiting for a therapy that works, with fewer side effects, and with greater precision than what is available today.

I draw inspiration from my own laboratory's journey. Working with dendrimers - those exquisitely branched, nanoscale macromolecules - my group has explored how they can be engineered to deliver drugs, genes, and proteins with unprecedented specificity. We have developed platforms for targeted cancer

imaging and therapy, for treating inflammatory lung injury, for addressing osteoarthritis and Parkinson's disease through innovative nanomedicine designs. Each of these projects has reinforced a central lesson: the elegance of the nanocarrier matters far less than the clinical problem it solves.

Our vision, therefore, is a field that measures success not by impact factors or citation counts, but by impact on patients. We envision a future where:

- The term “nanomedicine” evokes not just sophisticated science, but proven therapies.
- The pathway from discovery to approval is well-mapped and well-traveled, with fewer promising candidates lost along the way.
- The collaboration between academic researchers, clinicians, industry partners, and regulators is seamless and productive.
- The question “Will this help patients?” is asked at the beginning of every research project, not at the end.

OUR COMMITMENT: INTEGRITY, COLLABORATION, IMPACT

As Editor-in-Chief, I make the following commitments to our community:

To authors, we promise fair, constructive, and timely peer review. Our editorial board comprises leaders from across the nanomedicine spectrum - materials science, pharmaceutical sciences, clinical research, regulatory affairs - who will evaluate submissions with both rigor and generosity. We will provide feedback that strengthens your work, not merely judges it.

To readers, we promise content that is rigorous, relevant, and readable. We will prioritize research that advances the field, not merely fills pages. We will seek out reviews that synthesize complex areas and perspectives that challenge conventional thinking.

To the field, we promise to be a platform for dialogue across disciplines and sectors. Nanomedicine translation requires conversations between academics and industry, between researchers and regulators, between scientists and clinicians. This journal will facilitate those conversations.

To patients, we dedicate our efforts. Your needs are the ultimate justification for our work. We will hold ourselves accountable to the standard of whether our research brings us closer to better treatments for you and your loved ones.

A PERSONAL NOTE

I returned to China in 2008 after a decade of training and research in the United States and Germany. The decision was driven by a conviction that the future of nanomedicine would be shaped by global collaboration and by the recognition that health challenges know no borders. Over the past eighteen years, I have had the privilege of building a research group, mentoring young scientists, and contributing to China's emergence as a leader in this field.

Nanomedicine Therapeutics represents the next chapter of that journey. It is an invitation to colleagues around the world in every laboratory where someone is asking “How can nanotechnology help patients?” - to join us in building something new.

We will not publish every paper. We will not solve every problem. But we will try, with integrity and urgency, to advance the cause of nanomedicine that truly heals.

The bridge from bench to bedside is long. Let us build it together.

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