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From physicochemical reality to reliable digital evidence

Physicochemical foundations for translational research

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ABSTRACT

This inaugural editorial defines the scientific identity of the *Journal of Digital Health and Advanced Biomaterials* (JDHAB) by arguing that credible digital health evidence must remain accountable to physicochemical reality, methodological transparency, and clinically interpretable outcomes. It positions digital health, advanced biomaterials, and translational science as convergent fields united by rigorous measurement, reproducibility, validation, and responsible innovation. The journal therefore welcomes experimental, translational, clinical, methodological, and analytical studies that connect material characterization, data generation, and health-related evidence through robust design and clear editorial standards.

KEYWORDS digital health; advanced biomaterials; translational research; methodological rigor; digital evidence

PRINCIPLE	SCOPE	STANDARD
Digital health evidence grounded in measurable physicochemical reality.	Digital health, advanced biomaterials and translational science.	Methodological clarity, analytical consistency and transparent reporting.

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The *Journal of Digital Health and Advanced Biomaterials* (JDHAB) is grounded in a simple, though scientifically demanding, premise: in health research, digital claims become credible only when they remain accountable to the material phenomena they seek to describe, measure, or transform. Hypotheses are tested at that level. Methods either hold or fail there. Inference, likewise, finds its support there — or not. Measuring, modeling, and controlling the physicochemical behavior of systems is therefore not a peripheral technical task. It is a central condition for innovation that is both technically consistent and clinically relevant[1–3,11,13].

The most durable advances in digital health rarely result from computational sophistication alone. They depend, rather, on rigorous attention to signals, materials, biological variability, calibration, sampling, uncertainty, and physical interaction. The same reasoning applies to advanced biomaterials. What endures is not what merely impresses at first encounter, but what can relate composition, microstructure, and performance through valid methods, reproducible protocols, and transparent documentation. JDHAB is situated precisely within that zone of convergence. Its purpose is not simply to assemble adjacent fields, but to recognize the scientific demand they share: the translation of physicochemical understanding into digital evidence that is robust, verifiable, and open to scrutiny[2,7,8,11,12,14].

This convergence is not rhetorical. Decisions in health depend on evidence that can be justified, reproduced, and interpreted with precision. Yet the real is seldom stable or uniform. It appears through biological heterogeneity, contextual variation, acquisition limits, and interpretive difficulty. In that setting, innovation cannot be reduced to functionality alone. It must also yield results that are traceable, replicable, clinically intelligible, and defensible under sustained critical examination[2,3,8,10].

Scope and objectives of the journal

If JDHAB begins from the requirement that the digital must remain answerable to the real, its scope must be consistent with that commitment. The journal is devoted to publishing studies that contribute, at different levels of inquiry, to the advancement of digital health, advanced biomaterials, translational science, and innovation applied to health care[1,11].

This includes work on biosensors, digital platforms, artificial intelligence, telemonitoring, data science, diagnostic instrumentation, functional biomaterials, bioactive interfaces, surface engineering, delivery systems, regenerative devices, and clinical or experimental applications in which the relation between materiality, measurement, and evidence is decisive. Experimental, translational, clinical, methodological, and analytical studies are all welcome, provided that they rest on sound design, demonstrable scientific relevance, and interpretive clarity[11,13–15].

Underlying this editorial position is a refusal to treat digitalization, material characterization, and experimental validation as dissociated domains. The journal is not guided by novelty in isolation, nor by the uncritical adoption of emerging technologies. Its concern is with knowledge that is methodologically intelligible, scientifically solid, and capable of remaining relevant under critical review[2,6,8].

Commitment to rigor and editorial integrity

If digital evidence retains value only insofar as it remains tied to the material and methodological conditions that produce it, editorial rigor cannot be treated as a merely administrative stage. It is part of the journal's identity. In fields increasingly marked by automation, processing speed, and models whose internal operation is not always transparent, rigorous editing means preserving the scientific intelligibility of what is published[2,3,8–10].

For that reason, JDHAB adopts methodological clarity, analytical consistency, and transparency in the presentation of results as central editorial references. The journal values manuscripts whose procedures can be followed, whose limitations are stated objectively, and whose conclusions remain proportionate to the available evidence. Technological sophistication does not reduce the demand for intelligibility. If anything, it intensifies it[4–7].

The same principle guides editorial assessment. Manuscripts are examined according to scientific merit, ethical integrity, data traceability, coherence between method and inference, and relevance to both academic and professional communities. When appropriate, the journal expects precise descriptions of protocols, measurement conditions, statistical procedures, validation strategies, calibration parameters, reproducibility conditions, data availability, and potential conflicts of interest. This is not formalism. It is a means of ensuring that published knowledge can be read with confidence, examined with rigor, and used with responsibility[3–9].

By contrast, the journal does not accept opacity as a substitute for consistency. In areas where scientific maturity does not always advance at the same pace as technological innovation, JDHAB adopts a clear position: innovation acquires scientific value only when it can be verified, critically discussed, and sustained under methodological scrutiny[2–6,9,10].

Inaugural statement

This first volume marks more than the launch of a new title. It establishes an editorial space oriented by rigor, relevance, and responsibility. JDHAB begins its trajectory with the aim of bringing together contributions capable of articulating technical precision, clinical relevance, experimental consistency, and intellectual responsibility. Its goal is not merely to follow developments in the field, but to participate in defining the standards by which those developments ought to be assessed[1–3,11].

As an inaugural statement, this text also clarifies the identity of the journal before readers, authors, reviewers, and indexing and formalization processes. It delineates the scientific scope of the periodical, the aims that orient its editorial project, and the parameters by which it seeks to build credibility, continuity, and institutional recognition. Within this same movement of consolidation, JDHAB acknowledges the contribution of Professor Marlene Gonçalves Curty as *Managing Editor for Standards, Methodology and Indexing*. Her long-standing work in scientific methodology, academic standardization, information science, and editorial development provides an important foundation for the journal's technical consistency, documentary rigor, and institutional maturation[7,8].

Researchers, clinicians, engineers, and scholars from related fields are invited to submit work capable of withstanding not only immediate interest, but also the continuing examination of time, method, and scientific community. Ultimately, it is this horizon of permanence, more than novelty in isolation, that gives a journal density and justifies its existence[2,8].

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Assessment Editorial assessment