

From Physicochemical Reality to Reliable Digital Evidence

Journal of Digital Health and Advanced Biomaterials (JDHAB)

The Journal of Digital Health and Advanced Biomaterials (JDHAB) is founded on a premise that is simple to state but demanding in scientific practice: credible digital claims in health must remain accountable to material reality. Scientific propositions ultimately stand or fall at the level of matter. To measure, model, and control physicochemical behavior is therefore not a peripheral technical exercise, but a central condition of meaningful innovation in health and bioengineering. When such behavior is rigorously understood, the digital ceases to be a mere interface or promise and becomes an instrument of precision, traceability, and quality.

The most durable advances in digital health have rarely arisen from technological enthusiasm alone. They have depended instead on disciplined attention to signals, materials, biological variability, calibration, uncertainty, sampling, and physical interaction. The same is true of biomaterials. What endures is not what merely appears sophisticated, but what successfully relates composition and microstructure to measurable performance through valid methods, reproducible protocols, and transparent documentation. JDHAB is positioned at this intersection, not to juxtapose adjacent fields, but to recognize the scientific demand they share: the translation of physicochemical understanding into robust, verifiable, and auditable digital evidence.

This convergence is not incidental. Healthcare does not tolerate technological enthusiasm detached from material and methodological reality. It requires judgments that remain defensible under conditions of variability, noise, interpretive limits, and clinical complexity. In this context, innovation cannot be defined by functionality alone. It must also be traceable, replicable, and scientifically intelligible. For JDHAB, innovation is relevant only insofar as it can be measured, examined, and sustained under scrutiny.

Aims and Scope

If the digital must answer to the real, the scope of this journal cannot be broad by rhetorical ambition alone; it must be intellectually coherent. JDHAB was established to receive work in which digital health and biomaterials are treated not as loosely neighboring domains, but as interdependent dimensions of a common scientific problem: how to convert material phenomena, biological signals, and clinical processes into reliable, interpretable, and useful evidence.

The journal welcomes studies that establish explicit relations among mechanism, measurement, and application. This includes research in imaging, three-dimensional planning, artificial intelligence, computational modeling, instrumentation, sensors, additive manufacturing, surface engineering, advanced biomaterials, and translational investigation. Yet the journal's interest lies not only in subject matter, but also in the epistemic quality of inquiry. A manuscript becomes relevant to this journal when it clarifies how data were generated, how measurements were supported, what limits constrain interpretation, and to what extent conclusions remain open to verification.

JDHAB welcomes original research, rigorous reviews, validation studies, methodological contributions, and clinically relevant work grounded in objective documentation. Across these formats, the journal values studies that do more than present promising results. It values work that makes its criteria explicit, its procedures auditable, and its claims trustworthy. In technologically complex fields, the strength of a contribution depends not only on what it discovers, but also on how that discovery is demonstrated.

The journal also distinguishes translational relevance from immediacy. Foundational studies deserve space because they clarify mechanisms on which future practice may depend. Applied studies, in turn, may derive their value not only from novelty, but from reducing uncertainty, improving calibration, expanding reproducibility, and refining clinical interpretation. What unites these lines of inquiry is not a narrow thematic boundary, but a shared commitment to rigor, traceability, and scientific usefulness.

Commitment to Rigor and Editorial Integrity

If digital evidence remains meaningful only when tied to the material and methodological conditions that produce it, then editorial rigor cannot be secondary. It is constitutive of the journal itself. In fields increasingly shaped by automation, accelerated processing, and models whose operations are not always readily interpretable, rigorous editorial judgment is not merely a matter of selecting stronger papers; it is a means of protecting the scientific integrity of publication.

For this reason, JDHAB adopts methodological clarity, analytical consistency, and transparency in the production of results as central editorial commitments. The journal values manuscripts whose procedures can be followed, whose limitations are clearly acknowledged, and whose conclusions remain proportionate to the evidence presented. Technological sophistication does not exempt a study from the obligation to remain intelligible; it heightens that obligation.

The same principle governs editorial evaluation. Manuscripts are assessed according to scientific merit, ethical integrity, data traceability, coherence between method and inference, and relevance to academic and professional communities. Whenever appropriate, the journal expects clear reporting of protocols, measurement conditions, statistical procedures, validation strategies, calibration, reproducibility, data availability, and transparent conflict-of-interest declarations. These are not merely formal requirements. They are conditions for ensuring that published knowledge can be read with confidence, examined with precision, and used responsibly.

In fields where technological opacity often precedes scientific maturity, JDHAB adopts a clear position: innovation attains scientific value only when it can be verified, debated, and sustained under critical examination. This principle informs both the journal's editorial policy and its expectations of the work it publishes.

Inaugural Statement

This first issue marks more than the launch of a new title. It establishes an intellectual space defined by rigor, relevance, and responsibility. JDHAB begins its trajectory with the intention of bringing together contributions capable of articulating technical precision, clinical relevance, experimental consistency, and intellectual accountability. Its purpose is not merely to follow developments in the field, but to contribute to defining the standards by which they should be judged.

As an inaugural editorial statement, this text also defines the identity of the journal before its readers, collaborators, reviewers, and indexing processes. It sets out, in clear terms, the scientific scope of the periodical, the aims that guide its editorial project, and the standards by which it intends to build credibility, continuity, and institutional recognition.

We invite researchers, clinicians, engineers, and scholars from related fields to join this editorial project with work capable of withstanding not only initial interest, but the continued examination of time, method, and the scientific community. Ultimately, it is this kind of contribution that gives a journal depth and justifies its existence.

Lisandro Gonçalves, DDS, MSc

Editor-in-Chief, JDHAB

Maringá, PR, Brazil

ORCID: 0009-0004-8140-2876

editor@jdhhab.org