

The Innovation Physics: An international journal of physics

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Physics seeks to understand matter, energy, space, time, and the fundamental laws governing motion and interactions in nature. It transforms observation into explanation, and explanation into predictions that can be tested, challenged, and refined. Across vastly different length, energy, and time scales, physics reveals the hidden structures and laws of the natural world. Towards the smallest and largest scales, it explores the fundamental ingredients of matter, the nature of force, the structure of spacetime, and the evolution of the Universe. In between these two scales, it examines how these fundamental constituents interact, organize, and give rise to new forms of collective behavior. These studies connect microscopic interactions with macroscopic order and provide principles for designing artificial structures, controlling physical properties, and creating new technological functions. Today, the role of physics is expanding further, as advances in our understanding of nature increasingly enable us not only to observe and explain the physical world, but also to control matter, information, and energy with unprecedented precision.

Throughout history, physics has been closely connected with mathematics, chemistry, materials science, information science, life sciences, engineering, energy research, and medicine. Its influence on these fields is profound and often decisive. Many concepts, theoretical tools, experimental methods, and instruments developed in physics have become essential to research in other disciplines. At the same time, physics also benefits from advances in other fields. Their questions, methods, and technological developments help open new directions for physics. This mutual exchange has become a defining feature of modern physics, and now extends across materials research, information science, life sciences, and advanced engineering, where physical concepts help formulate new questions and develop and test new solutions.

Modern physics is driven both by unanswered fundamental questions and by a growing ability to control matter, energy, and information. Together, these forces are turning fundamental questions about coherence, correlation, symmetry, transport, and measurement into new capabilities. The nature of the vast universe, the fundamental structure of matter, and the unification of



Figure 1. Physics reveals nature and shapes the future.

fundamental interactions remain profound mysteries. New observational windows across the electromagnetic spectrum, gravitational waves, cosmic rays, and neutrinos are revealing a dynamic, multi-messenger Universe and opening new ways to test gravity, particle acceleration, and the behavior of matter under extreme environments. Quantum many-body phenomena, nonequilibrium systems, quantum materials, soft matter, and living systems are revealing unexpected forms of collective behavior. Quantum information, photonic manipulation, precision measurement, and extreme-condition science are transforming fundamental ideas into new capabilities. Computation, massive datasets, artificial intelligence, automated experimentation, and large-scale scientific facilities are also changing how physical knowledge is produced. Physics is advancing simultaneously toward domains that are deeper, more complex, more controllable, and more interconnected.

We share a profound conviction that these developments create a need for a journal that can reflect the breadth of modern physics while maintaining rigorous scientific standards. Many important problems no longer fit within traditional boundaries; they require a platform that connects fundamental questions with practical applications, advanced methods, and interdisciplinary collaboration. In response to this need, we are launching a new journal, *The Innovation Physics*, to provide a collaborative, inclusive and open

platform for physics researchers around the world. The newly established journal aims to become a leading journal in physics, disseminating innovative ideas, research discoveries and creative technological applications across physics and related disciplines. Through this journal, we aim to advance scientific understanding of the essential role physics plays in uncovering the laws of nature, driving technological breakthroughs, and addressing global challenges from the quantum to the cosmic scales.

The Innovation Physics is an international, peer-reviewed, open-access journal spanning fundamental, applied, and interdisciplinary physics. It welcomes cutting-edge original research, perspectives, and selected reviews across the established areas of physics and emerging "Physics X" frontiers. The journal will not measure innovation by fashion or novelty alone. We seek work that changes our understanding, introduces broadly useful methods, enables new technologies, or creates meaningful connections between fields.

We believe the success of *The Innovation Physics* will depend on the trust and support of the global research community. This inaugural issue is only the beginning. We will work with authors, reviewers, and readers to build a trusted platform for sharing scientific discoveries and technological innovations, and to shape the journal's future together.

Let us see the unseen and change the unchanged in physics.