


Editorial

# Geometry: A Bridge Connecting All Things

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In the ancient realm of geometry, we have witnessed the ultimate display of mathematical abstract thought. From Euclid's elements to modern mathematical physics, geometry is not just a branch of mathematics; it is a bridge connecting different disciplines. Since antiquity, geometry has held a prominent position in the field of mathematics due to its intuitive and visual nature. It is not only an object of abstract scholarship but also the foundation of our understanding of the physical world. From the simplest lines and angles to complex multidimensional spaces, the language of geometry has helped us unveil the secrets of the universe.

However, the influence of geometry extends far beyond this. With the advancement of modern science, geometry has become a bridge for communication between different disciplines. In mathematical physics, geometric concepts help us understand the behavior of particles and the structure of the universe. In number theory, a geometric perspective provides us with arithmetic insight through such profound ideas as the Langlands Programme. In topology, geometry reveals the essence of spatial continuity. In the era of artificial intelligence, geometry is becoming increasingly significant. AI-assisted conjectures and formal computer proofs are changing the way we conduct mathematical research. Geometry is not only a subject of study but also a tool, a key to exploring unknown territories.

*Geometry* (ISSN: 3042-402X) [1] is an international, peer-reviewed, open access journal dedicated to promoting this ancient yet vibrant discipline. We particularly encourage submissions that leverage geometry as a bridge between different domains, fostering collaborations and insights that transcend disciplines. We invite researchers and scholars from all backgrounds to join us on this intellectual journey as we unravel the profound beauty and significance of this ever-evolving field. The journal may be of special interest to researchers focused on Euclidean geometry, differential geometry, algebraic geometry, complex geometry, discrete geometry, computational geometry, geometric group theory, convex geometry, geometric algorithm, mathematical physics, number theory, representation theory, topology, and manifolds. Through a rigorous peer review, we look forward to geometry continuing to build bridges between disciplines, facilitating the exchange of knowledge and the advancement of science.

In our current age of multidisciplinary, big data, and AI, the role of geometry should not be underestimated. It is ancient and modern, concrete and abstract, practical and pure. Together, let us explore the infinite possibilities of geometry and witness how it continues to exert its unique features and value in various scientific fields. Let us delve into its depth, uncovering new connections, unlocking hidden patterns, and embracing its ubiquity.

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## Reference

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## Short Biography of Author



**Prof. Dr. Yang-Hui He** is a mathematical physicist, who is a Fellow at the London Institute, which is based at the Royal Institution of Great Britain, as well as a lecturer and former Fellow at Merton College, Oxford. He holds honorary positions as a visiting professor of mathematics at the City, University of London, Chang–Jiang Chair professor at Nankai University, and President of STEMM Global Scientific Society. He works on the interface between quantum field theory, string theory, algebraic geometry, and number theory, as well as how AI and machine learning help with these problems. He is one of the pioneers in the field of using AI for pure mathematics. He is the author of over 200 scientific publications and is also a keen communicator of science, holding regular public lectures, including the Royal Institution Friday Evening Discourse, as well as podcasts. His other outreach activities include acting as an advisor to BMUCO and being a fellow of the One Garden.

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