



**GLOBAL PERSPECTIVES IN
SCIENCE & SOCIAL SCIENCE:
TRENDS AND TRANSFORMATIONS**

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Dr. Arsi Prasad Jha
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THE GLOBAL TRANSFORMATION OF SCIENCE: INNOVATIONS, CHALLENGES, AND ETHICAL CONSIDERATIONS

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ABSTRACT

The document explores the global transformation of science, highlighting the impact of emerging technologies, interdisciplinary collaboration, and open science initiatives. Innovations in artificial intelligence, big data, quantum computing, biotechnology, and nanotechnology are revolutionizing research across various fields, while climate science and space exploration are advancing through international partnerships.

It also examines the challenges posed by misinformation, ethical dilemmas in AI and genetic engineering, and the commercialization of scientific research. The role of open science, virtual collaboration, and responsible innovation is emphasized as essential for ensuring equitable access to scientific advancements. The document underscores the need for global cooperation, ethical governance, and interdisciplinary approaches to address pressing challenges and shape a sustainable, knowledge-driven future.

Key Words: *Artificial intelligence, Big data, Quantum computing, Biotechnology, Nanotechnology, Genetic engineering*

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