

Chief Editor's Message

Editorial

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The Importance of AI in Healthcare and in the Supply Chain Financial Management Analysis

The Current Natural Sciences & Engineering (CNS&E) Journal is committed to fostering the next generation of scientific leaders through the rapid advancement of S&T. The CNS&E Journal has taken a unique challenge to fulfil aspirations of young researchers by providing a supportive environment to publish their innovations & creativity for the society. Further, it elevates new scientific findings impactfully to disseminate high-quality, disruptive ideas and technologies by shaping the future of technology to serve mankind.

A special focus on Artificial Intelligence "AI" based studies have been presented in this issue by emphasising on interdisciplinary research at the intersection of health care and in the Supply Chain Financial Management Analysis of Amazon, Swiggy, and BlueDART. It essentially correlates analysis using AI and highlights the distinct strategies of these companies implemented within the larger supply chain management framework, with their financial tactics and operational models adapting to both internal dynamics and external influences. The instances of weak or negative correlations further emphasizes the unique business models and market environments in which each company operates, illustrating that each organization's expense management is distinctly customized to meet its individual business requirements and competitive challenges.

Besides, a critical role of anaplastic lymphoma kinase (ALK) in non-small cell lung cancer has been elucidated. This study focuses on ALK protein mutagenesis analysis as a cornerstone of precision oncology by systematically characterizing resistance mutations such as L1196M, G1269A, F1174L, and G1202R, with a prediction of treatment failure, guide therapeutic selection, and design next-generation inhibitors with improved efficacy. Through techniques including site-directed mutagenesis, CRISPR-Cas9 gene editing, and structure-based drug design

supported by crystallographic studies, researchers are developing more potent compounds tailored to mutant ALK protein conformations. Moreover, this research aims to advance personalized medicine by integrating molecular diagnostics, real-time mutation monitoring, and adaptive treatment strategies. Understanding the complex interplay between ALK mutagenesis and therapeutic response will enable clinicians to overcome resistance mechanisms, optimize combination therapies, and ultimately improve survival outcomes for ALK-positive lung cancer patients. Such, approach represents a critical step toward transforming lung cancer from a uniformly fatal disease to a manageable chronic condition through precision-targeted interventions.

A concise review explores bio-memristor evolution, key switching mechanisms, and bio-inspired designs, categorizing bio-memristors based on their resistive switching behavior and highlighting applications in neuromorphic AI, neuroprosthetics, and energy-efficient IoT. Finally, it addresses challenges in scalability, integration, and ethical considerations, paving the way for computing systems that learn and evolve like the human brain. The ever-growing demands of AI and data-driven computing expose the inefficiencies of conventional CMOS, HPC, and AI workloads (GPUs & TPUs), which suffers from the von Neumann bottleneck. Another very important aspect of Bio-memristors offer a transformative alternative, merging memory and computation for real-time, energy-efficient processing.

Nevertheless, a short review work on the Variations in mitochondria in nervous system disorders has been also elaborated very well embedded with science, nanoscience, and engineering. Variations in mitochondria in nervous system disorders have been detailed by reviewing the basic needs of the advent of next-generation sequencing (NGS), which has further accelerated the field by enabling comprehensive analysis of both mitochondrial and nuclear genomes in a single workflow.

Ultimately, A Quote on AI is to be remembered from Dr R K Kotnala:

"Human Brain Intelligence cannot be Dwarfed by AI (Artificial Intelligence), a Brain Child of Human, But a Remarkable Tool to Handle Colossal Data more Efficiently with a Greater Speed, Accuracy using Smart Algorithms Devoid of Emotions & New Science!"