



Research Progress and Prospects in Cell and Molecular Biology

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Editorial

This year the Journal Cell and Molecular Biology is compiling its sixty seventh successive volume of peer-reviewed publications with an impeccable record of consistently publishing diverse articles on all major aspects of cell and molecular biology and tracking the progress and evolution of research direction. This is an excellent time to reflect upon the progress made in cell and molecular biology and the contribution of the journal in disseminating the knowledge and integration for translation into biomedical and clinical applications.

Scientific publications have moved to the digital world and this has enabled and propelled integrated and collaborative research avoiding redundancy and faster utility development. Some of the major events in the cell and molecular biology were the discovery of the protein intrinsic signals that regulate their transportation and localization in the cell, cloning of the sheep named Dolly by means of somatic cell nuclear transfer, discovery and follow-up research on human pluripotent stem cells. Cell and molecular biology is entering into a new realm of inter and cross disciplinary forum that has recently started including computational and systems biology approach for deciphering complex cellular phenomenon. Genome-wide analysis and microarray studies have enabled even better comprehension of cell functioning and intercellular communications and have unraveled the fundamentals of various molecular processes. All these have led to broadening of the scope of the Journal resulting in encompassing various disciplines.

The journal has commissioned different special issues on thematic topics in addition to the regular issues in order to accommodate the quantum and diversity of research that is taking place all across the world in cell and molecular biology. Cell and molecular biology continues to progress with generation of even deeper and new insights on various molecular processes underlying normal and pathogenic conditions. The Journal mainly aims to highlight the diversity and impact of various sub-disciplines that are relevant to cell and molecular biology. All the different formats of science communications are organized thematically which also includes cell regeneration and disease pathophysiology aspects. In order to propel new research directions the Journal encourages commentaries, opinions, editorial and recent conference abstracts.

Cell and molecular biology represents the fundamental functioning of life and it remains the most exciting field of research and versatile in terms of areas of subject specializations. Over the past few years and in fact over last two decades the technological advancements have been phenomenal enabling the researchers to visualize the molecular events by the way of high resolution imaging, high throughput analysis, *in vitro* and *in vivo* experimentation and deciphering the molecular and biophysical methods. Automations in DNA sequencing, advanced techniques of mass spectrometry and microarray analyses allow faster and reliable genomic and proteomic analysis and interpretations. However, the generation of large volume of dataset were a major task to decipher but this was solved by the advent of bioinformatics approaches. Techniques of PCR, GFP, FRET, RNAi have facilitated extensive biochemical investigations.

Among the latest research areas, essential process such as cell division, cell apoptosis, cell adhesion, cell migration, molecular biology of the cell membrane and organelle, stress physiology, signal transduction, and gene expression regulation are being focused upon with inclusion of computational approaches. Interdisciplinary approaches have gained substantial importance over time. Stem cell and molecular biology is now the mainstay focus of research and development across world-wide research forums as the topic is showing immense potential for biomedical applications. Particularly, a great deal of emphasis on the pathophysiology of both chronic and infectious diseases was noticed. Another field that is gaining prominence is the cancer biology as it remains one of the most significant public health concerns. Our Journal has developed a great deal and is now actively including clinical and experimental images, interpretations based on statistical analysis, numerical data tables and funding information.

I take this opportunity to thank the authors, reviewers and readers for their continued support making the Journal successful and highly sought after and reliable by the research communities demanding original, diverse and unique information. The journal is geared to promote research outcomes from remote corners of the world across the strata. Nevertheless, the core fields of research remains the main focus of the Journal that include the cell cycle, DNA repair, chromatin, transcription and translation, protein folding, signal transduction and membrane exchange traffic.

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