



EMERGING TRENDS IN BIOCHEMISTRY ISSUE

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The Biochemistry Department of University of Allahabad, Allahabad, organized a National Conference on 'Emerging Trends in Biochemistry' and a Satellite Symposium of Academy of Environmental Biology (AEB), during January 23-24, 2010 at the university campus at Allahabad, India. An unexpected, diverse and remarkable presence of committed researchers from various parts of the world made the event very informative and successful. It turned out to be a very special event as it was held in a historic and culturally rich city of northern India and located at the holy confluence of three sacred rivers of India, Ganges, Yamuna and the invisible Saraswati. In line with the theme of the conference, 'Recent Trends in Biochemistry', the contributions included recent researches in basic biochemistry and molecular biology.

The variety of the oral and poster presentations benefited numerous undergraduate and graduate students as well as the young and budding researchers. The attendees from not only the University of Allahabad but also from the Colleges in the vicinity got a chance to listen many high quality talks from researchers working on the frontiers of biochemistry and its applications to improve the quality of life of human being. The conference had a key note address by Dr. K.C. Gupta, Director, Indian Institute of Toxicological Research and more than 100 oral and poster presentations by scientists/academicians and graduate students from many National and International Research Institutions, Universities and Colleges. The subject areas included in this conference were

concerning to Emerging and Re-emerging Pathogens, Molecular Toxicology and Environmental Biology, Free Radical Biology, Biosensors, Human Aging, Genomics, Nanobiotechnology, Cancer Biology and Tropical Disease Research.

It was the success of the conference, which made us feel it to be worthwhile to collect the contributions and put the proceedings together for publication as a special issue of the scientific journal, Cellular and Molecular Biology. In this special issue of Cellular and Molecular Biology we present some selected peer reviewed research articles discussed in the conference. The first paper of this special issue by Tripathi et al. focuses on protective role of an Indian medicinal plant (Brahmi) extract on the aluminium induced neuromuscular toxicity into rat brain. The second article by Mishra et al. stresses on to the antioxidant and antimicrobial properties of some important medicinal plants in India. The third article of Kumar et al. highlights importance of sof gene as a specific genetic marker for detection of pharyngitis and rheumatic heart disease caused by *Streptococcus pyrogenes*. The fourth article by Rai et al. reports the antioxidant potential of the extract from an Indian plant, *Trichosanthes dioica*. The fifth article by Kirby et al. presents recognition of sugar ring conformation of 4'-ethyl-2-fluoro-2'-deoxyadenosine by the polymerase active site of HIV-1 reverse transcriptase. The sixth article by Singh et al. reveals biodegradation potential of a

white rot fungus, *Pleurotus eryngii* towards brassica haulms. The seventh paper by Baig et al. describes varied kinetic characteristics of dipeptidylcarboxypeptidase of *Leishmania donovani*. The eighth article by Tripathi et al provides information about the positive influence of topical application of methylsulfonylmethane (MSM), EDTA on pitting edema and oxidative stress in a double blind, placebo-controlled study. The ninth paper describes about the significant results about the protective effect of Vit E in rat erythrocytes intoxicated by ethion. In tenth article by Chakravarty et al. reveals the protective properties of melatonin in circadian modulation of sodium-potassium ATPase and sodium-proton exchanger in human erythrocytes. In eleventh research paper by Siddiqi, the protective effect of magnesium chloride on sodium fluoride induced alterations in various hydroxyproline fractions in rat lungs has been demonstrated. The twelfth paper by Siddiqi et al. illustrates the effect of sodium fluoride on various hydroxyproline fractions in rat serum. Rohilla et al. in thirteenth paper presented the *in vitro* induction of the ubiquitous 60 and 70kDa heat shock proteins due to pesticides such as monocrotophos and endosulphan in *Musca domestica*. In the fourteenth article Reddy and Tiwari have presented the genomic structure and sequence analysis of *Lucilia cuprina* HSP90 gene. Mishra and Tewari in fifteenth paper have reported the cytotoxic and genotoxic effects of mercury in house fly, *Musca domestica*. In the sixteenth article by Tripathi et al., the seasonal genetic variation in house fly populations, *Musca domestica* have been presented. The last and the seventeenth article by Rai et al. elucidates the protective role of aqueous extract of an Indian grass, *Cyanodon dactylon*, in carbofuran induced oxidative stress and inhibition of the activity of acetylcholinesterase in rat brain. Thus this special issue imparts useful information to the researchers working in different emerging areas of modern Biochemistry.

We sincerely thank Prof. (Dr.) Raymond Wegmann, the founding President of Cellular and Molecular Biology for his generous consent to our proposal to bring out a special issue on the

theme, 'Recent Trends in Biochemistry' in Cellular and Molecular Biology inviting BS as a Lead Guest-Editor and GW and KS as Co-Guest Editors. We also thank Mr. Mourad Fares, Executive Editor, CMB-Association, and the production team of CMB for their valuable cooperation to make this publication possible.

We extend our gratitude to Prof. Rajen G. Harshe, Vice Chancellor, and Prof. J.N.Mishra, Registrar as well as Finance Officer, University of Allahabad for all their possible support to organize this conference. The financial support from Council of Scientific and Industrial Research-New Delhi is also acknowledged. We are thankful to all contributors to this theme issue of CMB. Finally, it would be quite unfair if we fail to thank the volunteers who unconditionally participated in making the conference a successful event.

So special thanks to these individuals. We hope that this theme publication will be appreciated by all academicians and scientists working in different exciting areas of modern Biochemistry.