Special Issue

Protein-DNA Interactions: From Biophysics to Genomics

Message from the Guest Editor

Protein-DNA interactions are vital for gene regulation, replication, and repair. These essential cellular processes result from a complex action of systems involving various proteins such as transcription factors and DNA repair/modifying enzymes. Many mechanistic aspects of these proteins should be delineated to understand how genes are regulated and maintained. Such knowledge is important, particularly because many human diseases are related to abnormalities in protein-DNA interactions. Adverse effects may be caused by mutations in the genes and cis-regulatory elements, by alteration in post-translational modifications of transcription factors and DNA repair/modifying enzymes, and by epigenetic modifications of DNA and histones. In many cases, these are related to each other in complex networks of molecular interplays. This special issue is intended for providing a forum to discuss protein-DNA interactions from broader perspectives, ranging from an atomic/molecular level to a cellular/organismic level. Review articles by experts in the field are particularly welcomed.

Guest Editor

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As the premier open access journal dedicated to experimental organic chemistry, and now in its 25th year of publication, the papers published in *Molecules* span from classical synthetic methodology to natural product isolation and characterization, as well as physicochemical studies and the applications of these molecules as pharmaceuticals, catalysts and novel materials. Pushing the boundaries of the discipline, we invite papers on multidisciplinary topics bridging biochemistry, biophysics and materials science, as well as timely reviews and topical issues on cutting edge fields in all these areas.

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