

Special Issue

Chemistry of DNA Repair and DNA Replication

Message from the Guest Editor

Cellular DNA constantly undergoes chemical alterations, resulting in DNA lesions that are cytotoxic, miscoded, and are believed to be the cause of mutagenesis and cell lethality. The elimination of DNA damage involves several distinct DNA repair pathways. All these pathways are catalyzed by enzymes, and protein factors are responsible for the coordination of the whole repair process. DNA polymerases are also involved in various cellular processes associated with DNA replication and recombination, as well as the repair and maintenance of the integrity of nucleic acids. Differences in the biological functions of these enzymes are associated with cell localization, specificity for certain structures of DNA, fidelity, processivity, etc. It is now hard to find a biochemical process that is not connected to DNA repair and synthesis. The goal of this Special Issue is to present our current knowledge on the mechanistic details of DNA repair and synthesis enzymes, applying different experimental and computational approaches.

Guest Editor

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The International Journal of Molecular Sciences (*IJMS*, ISSN 1422-0067) is an open access journal, which was established in 2000. The journal aims to provide a forum for scholarly research on a range of topics, including biochemistry, molecular and cell biology, molecular biophysics, molecular medicine, and all aspects of molecular research in chemistry. *IJMS* publishes both original research and review articles, and regularly publishes special issues to highlight advances at the cutting edge of research. We invite you to read recent articles published in *IJMS* and consider publishing your next paper with us.

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