

## Special Issue

# Nuclear Architecture in Differentiation and Diseases

### Message from the Guest Editors

A major challenge of cell biology in the postgenomic era is to understand how the genome is spatiotemporally organized in the 3D/4D nuclear space of eukaryotic cells and how this organization contributes to essential cellular processes such as gene expression, replication, DNA repair or chromosome segregation. The analysis of the nuclear architecture is a relatively young field of research, which was driven during the last two decades by revolutionary advances in microscopy and deep sequencing technologies. Many features are still under debate, but we are starting to recognize how an impaired nuclear architecture can cause diseases. Thus, developmental programs are resulting in cell-type-specific 3D/4D nuclear organization. It is the scope of this Special Issue to present the latest insights into the principles of higher order organization of the genome and the epigenome in the cell nucleus from an evolutionary perspective on diverse taxa toward differential 3D/4D nuclear organization in the multiple cell types of complex organisms, such as mammals.

### Guest Editors

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