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Biophysical Studies of Metalloproteins

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Message from the Guest Editor

Dear Colleagues,

Metal ions play a critical role as structural, catalytic and signaling components of proteins in all living organisms. Metalloproteins can bind single or multiple metals in the form of simple ions, clusters or with cofactors of varying complexity. Transition metals such as Fe, Cu, Mn and the post-transition metal Zn, are involved in a remarkably wide variety of cellular processes, ranging from respiration to photosynthesis, nitrogen fixation, the Krebs cycle, oxygen transport, antioxidant defense, DNA synthesis, gene regulation among others. Other transition metals such as Co, Mo, Ni, V and W are much less frequent in proteins but nevertheless they too are essential for key biochemical reactions in all kingdoms of life. Metal coordination and chemistry shapes protein structure and function, so it is not surprising that defects in metal homeostasis often lead to pathological states.

This Special Issue of Biophysica welcomes contributions in all areas of metalloprotein biophysics. Original papers and review articles on these and related topics are welcome.