Future Prospects

- In future, the present investigation can be extended to examine the possibilities of obtaining the multicolor luminescence in La$_2$O$_3$ nanoparticles by activating with other lanthanide ions such as Dy$^{3+}$, Sm$^{3+}$, Tm$^{3+}$, etc.
- One can in future carefully choose the capping agent for synthesizing stable La$_2$O$_3$ nanoparticles at lower temperature.
- Further, detail investigation on cross-relaxation at different doping amounts can be performed.
- The blue and green emitting Ce$^{3+}$ and Tb$^{3+}$ co-doped Y$_2$O$_3$ nanoparticles can further cautiously incorporate red emitting entity for the production of white light for solid state lighting.
- The role of other metal ions in the lanthanide ions activated luminescent nanoparticles can be investigated.
- In future, the doping of different luminescent lanthanide ions can be incorporated in the electrodeposited ZnO nano thin films for enhanced luminescence.