Research pertaining to the conformational relay of small molecules has fascinated chemists for many years and emerged as a new significant area in chemistry, biology, and medicine. Elegant design of the molecules capable of transforming photochemical, kinetic or chemical energy into a circular motion can lead to the development of molecular rotors. Stimulus dependent conformational switches have been exciting because of their potential application to molecular machines, molecular motors and springlike devices. A better understanding of the conformational switching can be realized by developing a fluorescent molecular rotor and scrutinizing its flipping by means of highly sensitive fluorescence technique. With these standpoints, I would like to briefly discuss the Light Induced Molecular Rotation/dynamics that may seek various applicative insights in mechanical and chemical areas. I will include my recent result in this field wherein a quinazoline based highly fluorescent, multifunctional and thermoreversible conformatory switch has been designed and developed. It presents a Fe$^{3+}$ amenable, highly fluorescent molecular rotor that serves as naked eye and fluorimetric switch.$^{1,2}$

References: