**Dynamic Crystals as Haptic Sensor Materials**

Durga Prasad Karothu

**Abstract:**

Haptic memory devices⎯capable of conveying the sensory impression details after the removal of external stimuli such as force, pain and texture by taking advantage of the non-destructive nature of the memory device have received immense attention towards the development of soft electronics. With the current developments in artificial intelligence, there is a clear surge in the interest of creating haptic-memory devices to mimic the human sensory memory, which eventually open new opportunities for the realization of next generation high performance sensing systems and also the futuristic functional devices offering grate potential for improving everyday life. Exploration of dynamic crystals⎯a class of rapidly emerging crystalline materials that can respond to light, heat, humidity and pressure, have fascinating applications due to their attractive thermo/photo/mechanosalient and shape memory behaviors. With the recent advances in solid-state chemistry, all these dynamic effects have not only been documented and recorded with crystals, but some have also been partially explained using state-of-the-art techniques. This presentation will be mainly focused on rapidly emerging dynamic crystals and the applicability of some of these dynamic shape shifting crystals into technologically advanced haptic memory sensors or devices.