

## **Biomimetic and Stimuli Responsive Hydrogels for Health Applications**

Stimuli responsive materials respond to the changes in the environment (pH, ionic strength, temperature, light and catalytic activity of enzymes) and in turn alter their macromolecular structure to provide a measurable response. These biomaterials have found exciting applications in a variety of biomedical and nanotechnology fields including drug delivery, bio-sensing and regenerative medicine. This talk introduces new types of biomimetic and stimuli-responsive hydrogels that are comprised of vitamin B5 analogous materials (polymers and hydrogels). Vitamin B5 analogous hydrogels exhibit remarkable temperature and salt responsive behavior under physiological conditions. The applications of these materials including their potential as water harvesting system, as molecular chaperones and as emerging antifouling materials will be discussed.