

# Analytical Seminar

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**“Dynamics of stimulus  
responsive polymer gels”**

Gels are a state of soft matter consisting of a solid network such as a polymer, swollen with a liquid such as an electrolyte. They can exhibit complex coupled chemical, optical, electronic and mechanical behavior through the interaction of typically solid-phase properties (e.g. long range positional order and percolation) and liquid-phase properties (e.g. rapid chemical reactions and transport). I will illustrate the richness of such systems with several examples including holographic photopolymer optics, photolithographic polymer origami and stereolithography of stem-cell laden regenerative implants. Despite the breadth of applications, I will attempt to illustrate how one overcomes common challenges in working with such systems (e.g. metrology of weak compositional changes in 3D) and common behavior that can guide understanding (e.g. reaction/transport coupling).

▶ Thursday  
▶ March 30  
12:15 pm

Room  
1315  
Chemistry