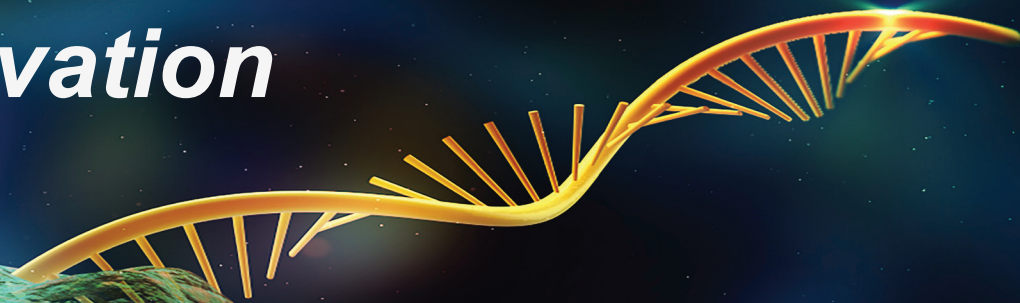
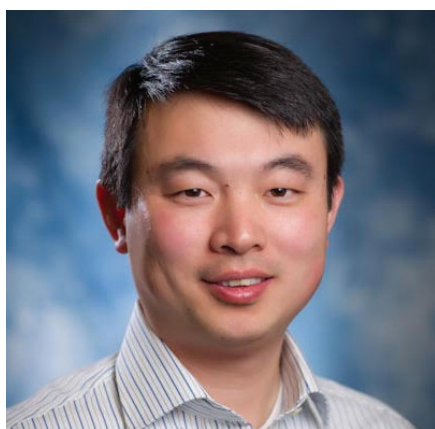


# RNA Innovation Seminars



**Monday, December 9, 2019 4:00-5:00 PM**  
**BSRB, ABC Seminar rooms**



**Qi Zhang, PhD**

Associate Professor of  
Biochemistry and Biophysics  
University of North Carolina  
School of Medicine

## **Unveiling the “Invisible” Regulatory States in RNA**

### **Abstract**

Conformational dynamics is a hallmark of diverse non-coding RNA (ncRNA) functions. During their biological processes, these flexible molecules almost ubiquitously undergo conformational transitions that are tuned to meet distinct structural and kinetic requirements for proper function. By developing and applying nuclear magnetic resonance (NMR) methods for characterizing conformational dynamics of nucleic acids at atomic resolution, we unveil that many ncRNAs dynamically access sparsely populated transient conformational states that often evade detection using conventional approaches in structural biology. With unique structural and kinetic properties, these “invisible” states can serve as a hidden layer of regulation in processes such as regulating transcription of riboswitch and modulating maturation of microRNA, promising new opportunities for rational design of RNA-based devices and RNA-targeted therapeutics.

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