



# Pratip K. Bhattacharya, PhD

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## *Real-time molecular imaging of early detection and prevention of cancer*

My talk will be focus of the development of hyperpolarized metabolic and molecular imaging techniques for early detection and prevention of cancer. Hyperpolarized MRI is a non-toxic, non-radioactive method for assessing tissue metabolism, biochemistry, binding, and other physiologic properties in real-time, with enhanced sensitivity compared to conventional MRI. Hyperpolarization allows for an over 10,000-fold signal enhancement relative to conventional magnetic resonance imaging (MRI) or MR spectroscopy. Afterwards, the signal enhancement can be retained on the nuclear spins of the hyperpolarized molecules for several minutes, allowing for a variety of enhanced MR studies in vivo. My talk will focus on hyperpolarized  $^{13}\text{C}$  metabolic imaging for early detection and determination of aggressiveness in pancreatic cancer and hyperpolarized  $^{29}\text{Si}$  molecular imaging for early detection of colorectal cancer.



The Gulf Coast Consortia is a collaboration of:

Rice University | Baylor College of Medicine | University of Houston | University of Texas Health Science Center at Houston  
University of Texas Medical Branch at Galveston | University of Texas MD Anderson Cancer Center  
Institute of Biosciences & Technology at Texas A&M Health Science Center

**Keck Seminar**  
**Friday, Sept 14, 4pm**  
**BioScience Research Collaborative**  
**Room 280 (2<sup>nd</sup> Floor)**

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