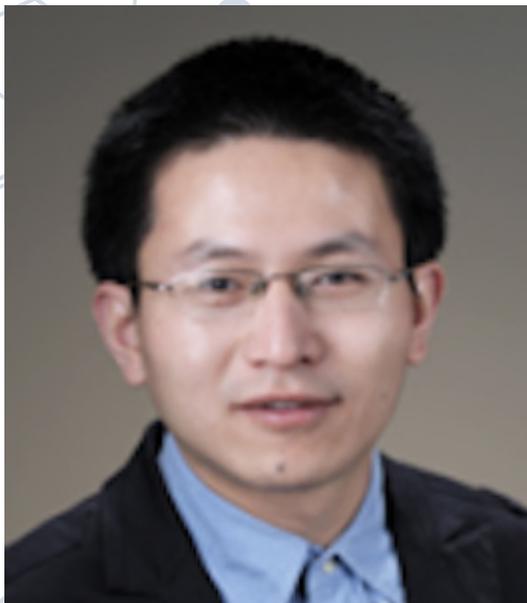


Chemistry Biology Interface Seminar

219 Brown Laboratory

March 11, 12:00pm

Development of PET Tracers for Brain Disorders - From Bench to Bedside



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**Katzin Diagnostic & Research PET/
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Positron-emission tomography (PET) is a nuclear medicine functional imaging technique that uses a small amount of radioactive materials (typically a nmol scale mass) called radiotracers or radiopharmaceuticals, a special camera, and a computer to aid diagnosis, monitor disease progression, and respond to treatment. By identifying metabolic or enzyme changes at the cellular level, PET may detect the early onset of diseases before other imaging modalities can. The talk will focus on the pathway to move a PET radiotracer from pre-clinical research to first-in-human studies, which includes radioligand design, in vitro evaluation, in vivo validation in rodents and nonhuman primates, clinical production of a radiopharmaceutical in a current good manufacturing practice facility (cGMP), toxicity and dosimetry consideration, and regulatory requirements for clinical translation. The talk will also include clinical benefits by combining positron emission tomography-magnetic resonance imaging (PET-MRI) hybrid imaging technology that incorporates magnetic resonance imaging soft tissue morphological imaging and positron emission tomography functional imaging at Nemours/A.I. duPont Hospital for Children and seek potential collaborations with the University of Delaware.



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