Recent common interest on molecular imaging among both diagnostic radiologists and interventional oncologists has led to establishing a new concept, called “Interventional Molecular Imaging.” This concept, by combining interventional oncology with molecular imaging, is aiming to fully apply the advantages of both imaging and oncology fields. Interventional oncology can extend the capabilities of currently-available molecular imaging techniques, to (i) reach deep-seated tumors; (ii) get a close look at early and small tumors; (iii) precisely guide delivery of non-targeted imaging tracers/therapeutics into the tumors and (iv) super selectively enhance effectiveness of targeted imaging and treatment of tumors. On the other hand, molecular imaging can be used to (a) precisely guide interventional oncology procedures and (b) sensitively access the responses of tumors to the interventional oncological therapies. Interventional molecular imaging is becoming one of the frameworks to bring advanced molecular imaging and interventional oncology technologies from benches/small animal labs to large animal suites, and ultimately to clinical applications in humans.

xmyang@uw.edu

Xiaoming Yang
University of Washington School of Medicine, USA