

Dr. Shan Liao

**Postdoctoral Research Fellow, Department of Radiation Oncology
Massachusetts General Hospital
Harvard Medical School**

Poster Title: Nitric Oxide Synthases (NOSs) Regulate Contraction of Collecting Lymphatic Vessels in Mice

Activities: I conducted my doctoral research at Yale University under the direction of Professor Nancy H. Ruddle. My doctoral work revealed the role of lymphotoxin- receptor signaling pathway in regulating the plasticity of lymph node vasculature during acute and chronic inflammation. My studies focused on the mechanisms of immune cell homing to the lymph node from high endothelial venules and on antigen presenting cell access to the draining lymph node via afferent lymphatic vessel during inflammation. I joined the Steele Laboratory at Massachusetts General Hospital immediately after graduation in 2007 to expand my lymphatic training to cancer metastasis. In the past two years, I established a mouse model to study lymphatic contraction. The most important function of collecting lymphatic vessels is their SMC-driven phasic contraction, which forces lymph up a pressure gradient toward the blood circulation. Using this model, I determined that eNOS and iNOS play different roles in regulating lymphatic contractions during normal and inflammatory conditions. My longterm goal is to continue to study the molecular mechanisms of lymphatic disorders during physiological and pathological situations and develop therapeutic drugs for the treatment of lymphatic disorders.