2013 JMNMF RSA Photo & Summary

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Pictured Left to Right: Jeffrey Sosman, MD, Professor of Medicine, Director-Melanoma and Tumor Immunotherapy Program; Katherine Hutchinson JMNMF RSA Recipient; and, William Pao, MD, PhD, Director-Division of Hematology/Oncology, Director-Personalized Cancer Medicine, Professor of Medicine, Cancer Biology & Pathology/Microbiology/Immunology.

SUMMARY: Identification and Role of Novel Melanoma Driver Mutations

Melanoma is a malignant tumor of melanocytes that is expected to cause nearly 9,000 deaths in 2013. Historically, patients with metastatic melanoma were treated with chemotherapy or immunotherapy, and outcomes were poor. Recently, treatment based upon the molecular makeup of individual tumors with targeted therapy has led to improved outcomes. At Vanderbilt, tumors from patients with melanoma are routinely screened for recurrent "driver" mutations (i.e. mutations which produce a constitutively active signaling protein) in genes such as *BRAF*, *NRAS, KIT, GNAQ* and *GNA11*. Specific mutations in these genes are found in ~70% of melanomas and are potentially clinically targetable with highly specific inhibitors. Unfortunately, the remaining ~30% of patients with "pan-negative" melanomas (no common driver mutations) have limited treatment options. The overarching goals of my research are to improve anti-melanoma treatment through characterization of novel drivers that we have already identified and development of improved clinical genotyping strategies.