

2019 Diversity Research Supplement Award – Opportunity List

The following individuals are former Career Development Award recipients and current faculty members in dermatology departments or divisions. Each has provided an opportunity for a medical student to work on a 6-12-week research project sponsored by a DF Diversity Research Supplement Award (DRSA). Medical students may contact [Beth Rankin](#) at the DF for the email addresses for these individuals, to inquire further about a short-term research opportunity.

Faculty Member/DF Awardee	Institution	Project Description
Sherrie J. Divito, M.D., Ph.D. Assistant Professor	Brigham and Women's Hospital/Harvard Medical School	My laboratory investigates the immune-pathogenesis of severe drug allergies, drug reactions to anti-cancer therapies (immune checkpoint inhibitors for example) and graft-versus-host disease. Research is translational and aims to directly impact patient care. We work with both human specimens (retrospective and prospective) and novel humanized mouse models of disease. Our research utilizes both traditional immunologic techniques (immunofluorescence/immunohistochemistry, microscopy, flow cytometry and sorting, ELISA, western blot, etc) and novel technologies (ex. high-throughput TCR sequencing, nanostring transcriptome analysis, RNAseq, multispectral labeling and imaging of tissue, laser capture microscopy).
Masaoki Kawasumi, M.D., Ph.D. Assistant Professor	University of Washington	Skin cancer is the most prevalent cancer in humans and is associated with ultraviolet (UV) radiation. Inactivation of tumor suppressor genes, including p16, is a frequent event in UV skin carcinogenesis. Intriguingly, the p16 gene itself is not mutated in a substantial portion of skin cancers. Instead, the promoter region of the p16 gene is methylated, leading to suppression of p16 gene transcription. This epigenetic change (p16 DNA methylation) is of therapeutic interest because it has the potential to be reversed to restore p16 expression. Recent advances in CRISPR-Cas9-based epigenome editing enable modulation of DNA methylation and histone marks at specific genomic loci. We will develop a highly specific tool to demethylate the p16 promoter and restore p16 expression in cell culture and mouse models. We hypothesize that p16-specific DNA demethylation inhibits cancer growth and metastasis.

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<p>Aaron Mangold, M.D. Assistant Professor</p>	<p>Mayo Clinic Arizona</p>	<p>The loss of inositol polyphosphate-5-phosphatase (INPP5a) may be an early event in the development and progression of SCC. INPP5a, a membrane-associated type I inositol phosphatase, has been shown to play a role in the transformation of a benign lesion (actinic keratosis) to cSCC, as well as in the evolution of localized to metastatic oropharyngeal SCC. Recently, our group demonstrated that INPP5a expression level is a potential adjunct for clinical management of cSCC. Specifically, we found that the loss of INPP5a expression in SCC is correlated with more aggressive tumors with high-risk features and worse clinical outcome. The prognostic value of INPP5a in local recurrence and metastasis is unknown. This study will examine INPP5a protein expression in metastatic and recurrent disease.</p>
<p>Misha A. Rosenbach, M.D. Associate Professor</p>	<p>University of Pennsylvania</p>	<p>Project opportunities include: --Sarcoidosis (and other granulomatous diseases) --Drug reactions (particularly severe drug eruptions) --Access-to-care (urgent care models and impact on hospitalizations/readmissions) --Inpatient dermatology --Medical Education</p>
<p>Junko Takeshita, M.D., Ph.D. Assistant Professor</p>	<p>University of Pennsylvania</p>	<p>My research program is broadly focused on identifying, understanding, and eliminating health and healthcare disparities in dermatology. Ongoing research projects include quantitative studies using large databases to identify disparities in healthcare utilization for and treatment of chronic inflammatory skin diseases (e.g., psoriasis, atopic dermatitis, acne, etc.) and qualitative studies to understand patient and provider perspectives on the experience of various skin diseases and treatment decision-making processes. There are opportunities to work on any of these quantitative or qualitative projects depending on a student's interests.</p>

November 2018