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Hunter Shain: Breaking New Ground on Genomic Impacts in Malignant Skin Cancer

PhRMA Foundation grant awardees continue to make headlines in genomic research. The latest example is **Hunter Shain, PhD**, a cancer geneticist at the University of California San Francisco -- who just this week published groundbreaking research on gene patterns in malignant skin cancer.

Dr. Shain, who received a 2017 Research Starter Grant in Translational Medicine & Therapeutics, is part of a UCSF team that identified the sequence of genetic changes that transform benign moles into malignant skin cancer. The team has used gene editing to recreate the steps of melanoma evolution one by one in normal human skin cells in the lab.

The new research, [published July 9 in *Cancer Cell*](#), for the first time systematically traced the how new mutations and changes in gene activity break down cellular protective mechanisms, allowing moles to transform into melanoma and begin to spread.

You can watch [a short video interview online with Dr. Shain](#) in which he describes the work of his team.

Why is this important to cancer patients? Dr. Shain's research has identified key molecular warning signs that could be used by clinicians to catch developing cancers before they spread and could also lead to new targeted therapies.

The new studies also identify new biomarkers that could be used in the clinic to more reliably detect rapidly progressing melanomas that require additional treatment beyond surgical removal.

We are delighted to have provided funding to help Dr. Shain with his research and congratulate him on these important advances in the effort to better understand and treat cancer!

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