Dr. Ley's lab team focuses on the genetics and genomics of acute myeloid leukemia (AML), studying the disease with a variety of genomic platforms in a long-term collaboration with The Genome Institute.

The investigators have used array-based genomic studies to identify and copy a number of alterations in AML genomes and expression signatures for several AML subtypes. They also have initiated whole-genome sequencing for a large number of AML samples with normal cytogenetics or with the 15;17 translocation. In addition, his group has identified several recurring mutations, including mutations in the IDH1 and DNMT3A genes, that may better stratify patients with intermediate-risk cytogenetics so they can receive the most appropriate consolidation intensity.

Dr. Ley earned his MD at Washington University School of Medicine and completed his internship at Massachusetts General Hospital, where he also served as an assistant resident in medicine. He was a clinical associate at the National Heart, Lung and Blood Institute (NHLBI) of the National Institutes of Health, and he later completed a fellowship in hematology and oncology at Washington University Medical Center. Before joining the Washington University faculty in 1986, he served two years as a senior investigator at the NHLBI. He is a member of the Institute of Medicine and the American Academy of Arts and Sciences.