Malignant gliomas are the most common primary brain tumors. Tumor heterogeneity is a barrier to precision medicine. Dr. Wang and his colleagues applied single cell profiling for IDH-wild type glioma (e.g., glioblastoma) and IDH-mutant glioma (e.g., astrocytoma and oligodendroglioma) to characterize glioma heterogeneity, tumor microenvironment, and identify combinational targets for brain tumor therapy.