Influential role of DNA repair factors in controlling B-cell development and carcinogenesis

My research program aims at understanding the mechanisms underlying DNA double-strand break (DSB) signaling/repair and the maintenance of genome stability, with a focus on their contributions to B-cell and blood cancer development. Our research topics include (1) the characterization of a specific class of enzyme, the deubiquitinases (DUBs), in B-cell development, antibody diversification and lymphomagenesis. (2) the importance of zinc finger proteins in the different DSB repair pathways, B-cell development and tumorigenesis. My laboratory is also interested in better understanding what factors dictate the response of blood cancers, including lymphoma and multiple myeloma, to the standard chemotherapy regimen using more systematic approaches including genome-wide CRISPR-mediated screens.