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Program in Cancer Cell Biology
Advisor: Weixin Wang
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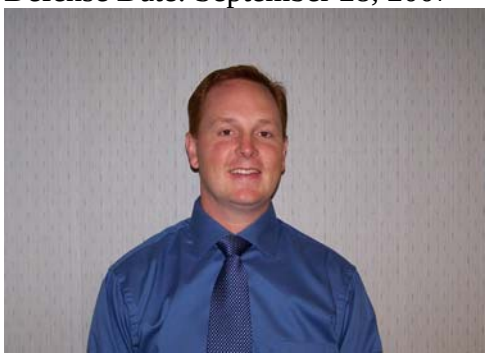

My research:
The focus of our lab is the DNA damage response activated by irofulven, a novel anti-cancer agent. My work focused on determining the type of damage induced by irofulven as well as the aspects of the DNA damage response controlled by BRCA1, the most common mutation in hereditary breast and ovarian cancer. My work showed that treatment with irofulven resulted in activation of cell cycle checkpoints, induction of double strand breaks and enhanced chemosensitivity all dependent on BRCA1. I also determined that irofulven induced apoptosis is initiated by caspase 2 and involves the mitochondrial apoptosis pathway. Lastly, I discovered a unique mechanism by which caspase 8 is able to protect cells from irofulven induced apoptosis.

Future directions:
I have accepted a postdoc position in the lab of David Cortez at Vanderbilt to investigate newly identified targets in the DNA damage response. There is an extensive array of proteins that have been identified to be involved in response to DNA damage that we have little or no information about. My goal will be to determine important regulators or substrate of these proteins in order to elucidate their role in the DNA damage response pathway.