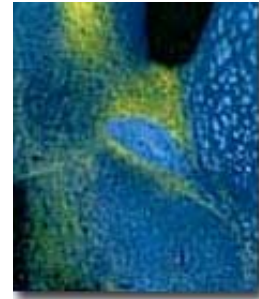




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### Research Interests

My lab, which moves to the University of Michigan in the summer of 2007, explores the reasons why the brain degenerates in various neurodegenerative diseases. While we have focused particularly on the polyglutamine expansion diseases, we also study genes implicated in Alzheimer disease. A common theme among neurodegenerative diseases is the tendency for certain proteins to misfold and aggregate in select brain regions. We investigate why these proteins are toxic to neurons and how the neuron's protein quality control machinery (e.g., molecular chaperones, ubiquitin-proteasome degradation system) counteracts this toxicity. To address these questions, we employ techniques ranging from recombinant protein analysis to cell-based assays and engineered mouse models, with corroborating analysis of human disease tissue when needed. Our long-term goal is to understand disease processes so that we can develop therapies for these fatal, currently untreatable disorders. Toward that end, we were among the first to use RNA interference as a potentially powerful therapeutic strategy for such disorders. In the next few years, we will continue preclinical studies of therapeutic RNAi as we and others strive to bring this novel approach to treatment to the clinic.

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