

**Center for Translational Neuroscience
Seminar Series**

Tuesday, November 21, 12 noon
Rayford Auditorium, Biomed II Bldg.

“Neurotoxicological Research at the FDA’s
National Center for Toxicological Research”

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Diseases and disorders of the brain represent enormous societal burdens, both economically and in terms of human suffering. The known and suspected causes of brain-related disorders include exposures to chemicals—including therapeutic drugs and drugs of abuse—food additives, food products, cosmetic ingredients, pesticides, and naturally occurring substances. Each year millions of children are exposed to anesthetics and sedatives that have been shown in pediatric-animal models to cause significant nerve-cell death and subsequent brain dysfunction. Nanomaterials are entering our world at an ever-increasing pace, yet little is known about their potential toxicity. Addictive behaviors associated with tobacco products continue to take their toll. The number of FDA-regulated chemicals that can affect the nervous system runs well into the thousands and chemicals that are known or suspected causes of brain-related disorders are vital to the national economy and our quality-of-life. Our challenge, thus, is to determine at what levels of exposure and under what conditions these compounds can be used effectively while minimizing risk. The ultimate goals of the Division of Neurotoxicology are to understand the biological pathways relevant to the expression of neurotoxicity in order to identify relevant, yet practical, biomarkers. Developing methods to help identify potential toxicities is critical for the assessment of neurotoxic risk, the development of informed safety guidelines, and the development of protective and therapeutic strategies.