

Fulton T. Crews, Ph.D.

*John Andrews Distinguished Professor of Pharmacology and Psychiatry; Director of the Bowles Center for Alcohol Studies*

Education:

B.S., N.Y. State Regents Scholar, Syracuse University , 1971

Ph.D., Pharmacology, Rackham Graduate School, University of Michigan, 1978

National Institutes of Health, Bethesda, MD , 1980

Summary Statement:

As director of the UNC Bowles Center for Alcohol Studies, Dr. Crews has investigated how chronic ethanol induces structural and functional changes in the brain associated with binge drinking. His more recent studies follow changes in gene expression that contribute to a progressive degeneration with increasing impulsive-compulsive drug taking. Dr. Crews discovered that heavy alcohol use damages cortical brain regions involved in impulse control and planning capabilities. He found genetic and age-related risk factors influence vulnerability to alcohol-induced brain damage. Dr. Crews was the first to discover that adult brain stem-progenitor cells are insulted by alcohol. Recently he discovered persistent brain neuroinflammatory gene induction secondary to systemic cytokines and identified reduced neurogenesis as factors in alcohol-related brain damage, difficulty with reversal learning tasks and inducing alcoholic depression-like behavior. Further, he discovered that recovery of brain function during abstinence from alcohol includes a regenerative process with many new neurons and other brain cells being formed during abstinence from alcohol.

Dr. Crews is among the few neuroscientists investigating the adolescent brain as a unique neurodevelopment period that has considerable risk for future alcoholism. He directs a research consortium, the Neurobiology of Adolescent Drinking in Adulthood (NADIA) that test the hypothesis that underage drinking leads to persistent changes in adult brain. His goal is to improve understanding and knowledge that promotes better prevention, diagnosis and treatment of addiction. Under Dr. Crews' leadership, the Bowles Center has become a leading center in research on the molecular mechanisms of alcohol pathology, and on the testing of new therapies.