AMY ARNSTEN Dr. Amy F.T. Arnsten is Professor of Neurobiology at the Yale University School of Medicine. She received her B.A. with Honors in Neuroscience from Brown University in 1976, and her Ph.D. in Neuroscience from the University of California, San Diego in 1981, where she trained with Drs. David Segal, Steven Hillyard, and Floyd Bloom. Following her doctoral studies, Dr. Arnsten performed post-doctoral research with Dr. Susan Iversen at the University of Cambridge in England and then with Dr. Patricia Goldman-Rakic at Yale University. Dr. Arnsten's research focuses on the highly evolved prefrontal cortex, elucidating the molecular mechanisms that determine the strength of network connections and cognitive abilities, with the overarching goals of understanding how insults lead to cognitive impairment, and developing informed strategies for pharmacological treatment. Her lab utilizes a range of techniques- multiple label immunoelectron microscopy, *in vivo* single unit recording with iontophoresis, neuronal reconstruction, and adenoviral knockdown coupled with cognitive assessments- to identify the intracellular signaling mechanisms that rapidly alter prefrontal cortical network strength, a process termed Dynamic Network Connectivity. Her lab has discovered the molecular events that take the prefrontal cortex "off-line" during fatigue or stress exposure, and how genetic and/or environmental insults in this process may contribute to cognitive impairment in mental illness and in aging. Her research has succeeded in identifying two pharmacological agents now in clinical use to treat prefrontal cortical dysfunction in patients: **(1)** guanfacine (Intuniv^{TM}), approved by the FDA for the treatment of Attention Deficit Hyperactivity Disorder, and also used off-label to treat Tourette's syndrome, oppositional symptoms, emotional trauma, attentional neglect from stroke, traumatic brain injury to the frontal lobe, substance abuse, and behavioral symptoms in autism-spectrum disorders; and **(2)** prazosin, a compound which protects the prefrontal cortex from the deleterious effects of stress in animals, and is now being tested in patients with Post-Traumatic Stress Disorder, including troops returning from Iraq and Afghanistan.