Description of Research	Dr. Tregellas is interested in the development of neuropathology in schizophrenia, including inhibitory dysfunction, the involvement of the cholinergic system, and auditory processing. Inhibitory dysfunction is thought to be a core feature of schizophrenia. Dr. Tregellas' lab currently is studying frequently observed deficits thought to reflect problems in inhibitory processes at the neuronal level. People with schizophrenia often are unable to ignore or filter out unimportant information in the environment. These sensory processing deficits may be related to disease pathology. Dr. Tregellas' lab uses functional magnetic resonance imaging (fMRI) to better understand pathological processes involved in these sensory processing problems in schizophrenia, and how these problems impair cognition. Studies from his lab have shown that during simple sensory information processing, people with schizophrenia often have overactivity of a network of brain regions including the hippocampus. His group also has shown that this overactivity is reduced by nicotine and other drugs that act at the nicotinic receptor. Dr. Tregellas is developing methods to image potential sensory processing problems in infants at high risk for schizophrenia. Dr. Tregellas also is interested in food intake behaviors and the development of obesity, both in people with and without schizophrenia. In collaboration with Dr. Marc Cornier in the Department of Endocrinology, Dr. Tregellas' imaging studies have revealed which brain networks are involved food intake behaviors, how these networks differ between obese and thin individuals, and how different diets affect neuronal responses. Drs. Tregellas and Cornier recently have begun new studies of the effects of bariatric surgery on neuronal responses to visual food cues.
Methodology	Neuroimaging
Clinical and special developmental populations	Schizophrenia
Contact email	Jason.Tregellas@ucdenver.edu
Mentor since	11/1/2010