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Research Interests

This laboratory utilizes imaging techniques (positron emission tomography, single photon emission computed tomography, magnetic resonance imaging and spectroscopy) to explore aspects of brain neurochemistry, function and anatomy as they relate to the pathophysiology of mood disorders and substance abuse. In the area of mood disorders and affective regulation they are studying the role of the opioid system in Major Depression. This system is involved in responses to stress, and in hedonic and reward functions. In a related theme, they are exploring gender differences in the function of the endogenous opioid system during a tonic pain challenge, under double-blind, placebo-controlled conditions. The involvement of the opioid system in substance dependence and withdrawal is being explored in two parallel projects. Other ongoing studies include the study of brain functional responses (regional cerebral blood flow and regional metabolic rate of glucose) to the administration of nicotine. Finally, the regulation of cholinergic synaptic contacts by long-term estrogen replacement in postmenopausal women is being explored.

Selected References

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