

James & Esther King Biomedical Research Program

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*Psychiatry
University of Florida*

*2010 Program
Postdoctoral Research Fellowship
(3-year project)*

Project Title: Investigation of the Role of Corticotropin-Releasing Factor in the Basolateral Amygdala During Nicotine Withdrawal and Stress-Induced Reinstatement

Project Summary: The overall idea of this project is that the negative feelings or emotions experienced as a result of quitting smoking and the tendency to start smoking again during stressful times are in part, a result of altered functioning of the signaling protein known as corticotropin-releasing factor within the basolateral amygdala, a brain area that plays a critical role in regulating emotional states. We will conduct experiments in the basolateral amygdala (BLA) area to determine if blockade of corticotropin-releasing factor 1 (CRF1) receptors and stimulation or blockade of corticotropin-releasing factor 2 (CRF2) receptors reverse these negative emotions. First, we will examine the role of CRF1 and CRF2 receptors within the BLA in the negative feelings or emotions experienced due to quitting smoking. Next, we will examine the role of CRF1 and CRF2 receptors within the BLA in the tendency to start smoking again due to stress. The experimental approach is based on the idea that long-term smoking induces changes in CRF signaling within the BLA and that these changes are associated with the negative feelings or emotions experienced from stress or tobacco cessation. Understanding the role of CRF within the BLA may help in the development of improved treatments for tobacco addiction.