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**What is The Role of Nicotine in Smoking?
A Perspective from Animal Research**

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Martin Colloquium Center

Animal models of drug reinforcement have evolved to reflect our growing awareness of the multidimensional nature of drug dependence in humans. Research on the interaction between nicotine and nonpharmacological stimuli has generated new insights into the paradox of how nicotine, an apparently weak primary reinforcer, can sustain the robust behavior observed for self-administration in animals and smoking in humans. Based on this research we have recently proposed a dual-reinforcement model, which posits that the capacity of nicotine to support self-administration in rats and smoking in humans derives from at least two sources: 1) the primary reinforcing effects of nicotine, an action that requires response-dependent drug administration, and 2) the ability of nicotine to powerfully enhance behavior maintained by salient non-nicotine stimuli, an action that does not require a contingent relationship between drug administration and either stimulus presentation or the behavior upon which these presentations are based. Empirical support for the application of the dual reinforcement model to nicotine will be presented along with initial attempts to pharmacologically dissociate its primary reinforcement and reinforcement-enhancing actions. This hypothesis provides important direction for future investigations into the neurobiology of nicotine reinforcement. Supported by NIDA

Reception to follow in Room 4125 Sennott Square