Is smell a quantum phenomenon?

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Our sense of smell is extraordinarily good at molecular recognition: we can identify tens of thousands of odorants unerringly over a wide concentration range. The mechanism by which this happens do so is still hotly debated. One view is that molecular shape governs smell, but this notion has turned out to have very little predictive power. Some years ago I revived a discredited theory that posits instead that the nose is a vibrational spectroscope, and proposed a possible underlying mechanism, inelastic electron tunneling. In my talk I will review the history and salient facts of this problem and describe some recent experiments that go some way towards settling the question.

Friday, November 11th 2009, McCook Auditorium, 3:00 pm, Refreshments 2:45 pm