

MAR12-2011-020215

Abstract for an Invited Paper  
for the MAR12 Meeting of  
the American Physical Society

### **Quantum Coherence in Biology**

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Discussion of quantum mechanical effects in biology is generally restricted to molecular energetics, stability, and kinetics as determined by potential energy barriers. In recent years however, an increasing number of experiments have shown evidence for the existence of dynamical phenomena in biological systems that involve coherent quantum motion. One prominent instance is electronic quantum coherence in photosynthesis. I shall present theoretical studies that analyze the nature of this coherence, its relation to the non-local quantum correlations characteristic of entanglement, implications for relevance of quantum information processing in natural systems and address the question of whether and how such quantum coherence might result in a biological advantage.