

Is Life Quantum Mechanical?

The dawn of quantum biology

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Lecture Theatre 1A7, Pevensey 1 building

University of Sussex

This lecture introduces the exciting new field of Quantum Biology.

Quantum mechanics is familiar to physicists and chemists, but biologists too have to think about this strange yet powerful theory of the subatomic world. There is now solid evidence that enzymes, those metabolic workhorses that drive much of the action in our cells, use quantum tunnelling to accelerate chemical reactions. Plants use quantum coherence - sending lumps of energy in many directions at once - to calculate the most efficient route for sunlight to get to their photosynthetic cells. Some birds appear to use quantum entanglement - what Einstein

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magnetic field for navigation.

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