

Lectures on Quantum Phenomena

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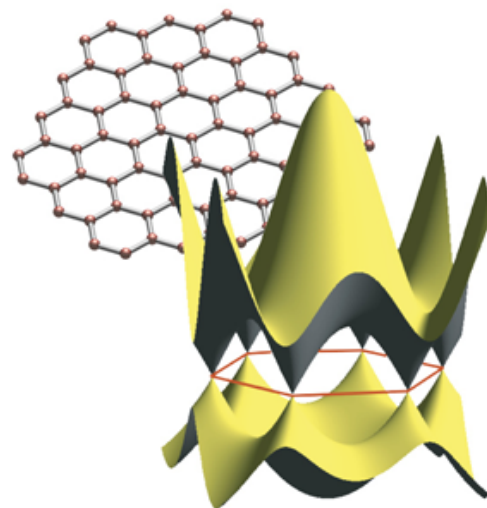
Fairmont Lounge, St. John's College

Graphene: the Idea, the Material and the Future

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Graphene is an example of emergence, where the collective behavior of a complex system is entirely different from the constituents. Graphene itself is a single sheet of Carbon atoms: but the collective behaviour is that of a relativistic quantum theory. Thus one can imagine testing fundamental principles in graphene, some of which are far beyond the reach of giant accelerators. Graphene's recent discovery in the lab (for which Andre Geim and Konstantin Novoselov shared the 2010 Nobel Prize in physics) showed it to be a promising candidate for future electronics technology: speculations abound that it may become 'the new silicon'. The graphene story is an object lesson in the extraordinary intellectual bridges that can exist in science between apparently utterly different phenomena, and in the predictive power of pure theory.



To learn more please visit [his webpage](#).

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