



JAMES HONE 'Putting things on top of other things: fabrication and applications of van der Waals heterostructures'

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September 23, 2013

Seminar, September 23, 2013, 15:00. Seminar Room

JAMES HONE

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Two-dimensional materials such as graphene can achieve spectacular performance but are highly sensitive to disorder from the environment. We have developed techniques to controllably *stack* graphene on insulating hexagonal boron nitride, which dramatically reduces disorder and increases performance. In addition, these heterostructures can display novel behavior due to the presence of *superlattice* potentials arising from the graphene-BN stacking. In recent work, we have extended these techniques to create fully encapsulated

devices whose performance approaches the ideal behavior of sgraphene. These techniques can be used to create heterostructures of other 2D materials such as MoS2 and WSe2. I will describe our studies of basic science and applications of these devices.

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Hosted by Frank Koppens