

## **Exploring and engineering the electronic properties of 2D materials**

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Following the discovery of graphene, it has become clear that it is possible to produce, manipulate, and control matter at the ultimate level of atomically thin monolayers. Experiments show not only that when the thickness of materials is reduced to this level new electronic properties emerge, but also that these “2D materials” can be combined together to produce synthetic media with engineered electronic properties. This level of control would have been simply unimaginable even five years ago, and the field is at its start. In this talk I will use examples from work done in my group on transition metal dichalcogenides, graphene and their interfaces to illustrate how this new field of research is developing extremely rapidly.