

2D material nanopores

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In this talk, I will address novel applications ranging from identification of single nucleotides, but as well applications that go beyond DNA sequencing. These methods provide effective ways for DNA mapping and barcoding. We use a novel solid-state nanopore platform based on atomically thin nanopore membranes in 2D materials such as graphene or molybdenum disulfide. The platform is suitable not only for DNA detection, but can also be used in water desalination, and osmotic power generation.