Nanopores in 2d materials opportunities and challenges

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We use novel solid-state nanopore platform based on atomically thin nanopore membranes in 2D materials such as graphene, boron nitride or molybdenum disulfide for DNA detection, sequencing, water desalination and osmotic power generation. In this talk, I will address several experimental challenges related to the large area growth of 2D materials, nanofabrication of uniformly sized nanopores and their integration with other materials. I will conclude with the recent results that further our understanding of ionic transport through subnanometer holes and importance of the pore geometry.