

## **FIB-SEM techniques for solid-state nanopore characterization**

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Solid-state nanopores are likely to be the basis of future single-molecule DNA-sequencing techniques. However, achieving the device performance required for sequencing requires precise control of the material content and geometry of the nanopore. In order to characterize these nanopores, I have developed a site-specific TEM sample preparation technique that enables cross-sectional TEM imaging of nanopores[1]. Samples prepared with this technique allow not only sub-nanometer imaging resolution, but also nanometer-scale elemental analysis using STEM with EDX.

[1] A.T.Kuan, J.A.Golovchenko. Nanometer-thin solid-state nanopores by cold ion beam sculpting. *Appl Phys Lett* (2012), p. 100.