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## Multidisciplinary team projects big things from small packages

VANCOUVER, BC--Three Simon Fraser University researchers--materials chemist Hua-Zhong (Hogan) Yu, physicist John Bechhoefer and biochemist Dipankar Sen--teamed up to win one of nine initial research grants from the newly-established Natural Sciences and Engineering Research Council (NSERC) Nano Innovation Platform program.

The group received the award of \$200,000 over two years to study single-molecule conductivity of DNA and DNA-ligands which are ions, molecules or molecular groups that bind to another chemical entity to form larger, complex constructs.

"The money will be used as the seed to initiate the work, and we should be able to achieve our initial goal: Feasibility testing of our proposed protocols to carry out single-DNA molecule conductivity measurements, " says Yu.

Probing the interactions between DNA and various proteins using an instrument called a conducting atomic force microscope (that can show the shape, size and other physical properties of individual molecules and atoms) the SFU team hopes to advance fundamental science by studying how the shapes of molecules affects how they conduct electricity.

This knowledge can be used to develop new biosensors which are widely used in industrial processes and lab work.

"We had a list of criteria by which our international panel rated the proposals, " says Mark Roseman, associate scientific director, NSERC. "Among them was originality, excellence of proposal, and an expectation of significant progress and impact.

"Essentially, we were looking for high-risk, high-return proposals, which are innovative and could potentially produce significant results, " he adds.



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