



## Dr. Gennady Logvenov

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### Superconducting interface between metal and insulator

Using an advance molecular beam epitaxy system for atomic-layer engineering of complex oxides we have fabricated a variety of superlattices in wich stacked layers of  $\text{La}_{2-x}\text{Sr}_x\text{CuO}_4$  doped to different levels. In superlattices formed by stacking highly overdoped, metallic  $\text{La}_{1.5}\text{Sr}_{0.5}\text{CuO}_4$  and insulating  $\text{La}_2\text{CuO}_4$  layers we have observed interface superconductivity at temperature as high as 30 K, even though neither of the building blocks was superconducting. Extensive experimental study of this superconducting interface will be reported. Different possible mechanisms of this interfacial superconductivity will be discussed.



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