

**Controlling and Probing Non-Abelianness and Quantum Mass Acquisition
in Spinor Condensates**

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In this talk, I will address two issues concerning spinor condensates. First, I will show that the non-abelian feature of a synthetic gauge potential can be controlled and probed by using fermions immersed in a spinor condensate [1]. Second, I will argue that a spinor condensate is an excellent candidate for the observation of quantum mass acquisition -- a so-far elusive phenomenon in which a massless quasiparticle becomes massive due to quantum correction [2].

Reference:

[1] N. T. Phuc, G. Tatara, Y. Kawaguchi and M. Ueda, Nat. Comm. 6, 8135 (2015)

[2] N. T. Phuc, Y. Kawaguchi, M. Ueda, Phys. Rev. Lett. 113, 230401 (2014)