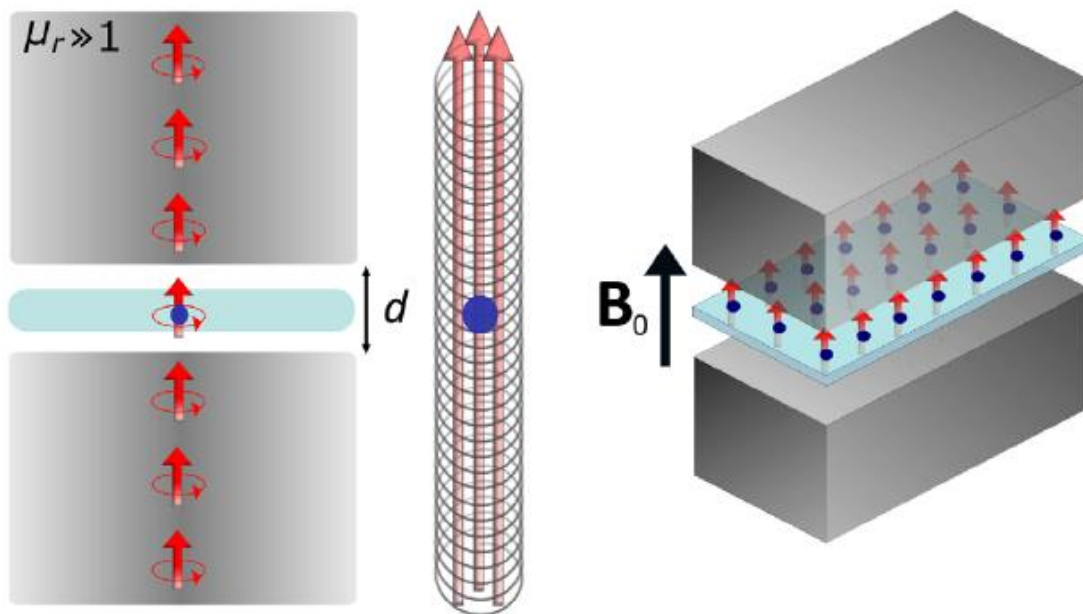


Poštovani,

pozivamo Vas na predavanje „*Engineering anyons*“ koje će se održati prof. dr. sc. Hrvoje Buljan u petak 21. 09. 2018. s početkom u 12 sati u predavaonici B-3-47 Prirodoslovno-matematičkog fakulteta u Splitu, Ruđera Boškovića 33.



## Engineering anyons

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**Abstract.** I will present our research of anyons [1,2,3], the topic of research in our group related to synthetic topological quantum matter [4,5]. I will present one possible route to engineer anyons in a 2D electron gas in a strong magnetic field sandwiched between materials with high magnetic permeability, which induce electron-electron vector interactions to engineer charged flux-tube composites [1]. I will also discuss intriguing concepts related to extracting observables from anyonic wavefunctions [2], where, for example, one can show that the momentum distribution is not a proper observable for a system of anyons [2], even though this observable was crucial for the experimental demonstration of Bose-Einstein condensation or ultracold fermions in time of flight measurements. I will show how time of flight measurements can be used to extract anyonic

statistics [2]. Finally, I will present our ongoing research on anyonic excitations made with externally induced localized perturbations imprinted onto the IQHE state [3].

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