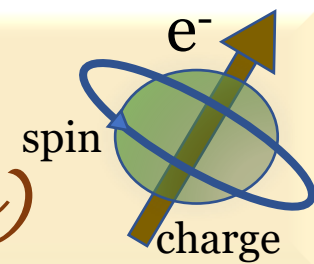




# W2S Seminar

(Webinar series on Spintronics)



## Spin currents in Graphene

Speaker:

Prof. M. Venkata Kamalakar  
Department of Physics and Astronomy  
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**Date and time:**

**15.04.2021 at**

**03.00 PM**

**Via**

**Zoom**

### Abstract

Spin electronics is an evolving field that has significant potential to revolutionize the IT industry and next-generation electronic applications. Over the past decades, spin currents (streams of spin-polarized electrons) have led to a colossal expansion of memory storage capacity in computers through the giant magnetoresistance effect (Nobel Prize in Physics 2007). Beyond this major advancement, spin currents exhibit outstanding prospects for ultralow-power and faster spin-electronics. For exploring such prospects, the new class of two-dimensional (2D) materials, that are atomically thin crystals with thickness  $\sim$  few Å-nm have emerged as ideal systems. A classic example of such materials is graphene, where spin currents can travel over tens of microns at room temperature, up to hundreds of times longer than in normal metals. In this talk, I will present how understanding magnets has led to the development of the fascinating field of spintronics. I will introduce how graphene provides unprecedented means to investigate spin currents for realizing novel spintronic devices.

If interested to attend then please visit <https://www.niser.ac.in/w2s-seminar/index.php>