

## **Seminar**

### **Solid-state NMR strategies towards speed, resolution and geometry**

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Solid-state NMR is a flexible and powerful technique for the elucidation of geometry and dynamics information on a variety of samples. However, there is still a need to overcome poor sensitivity and resolution as most of the solid-state samples yield broad NMR spectra due to anisotropic interactions, such as chemical-shift anisotropy and dipole-dipole couplings. These interactions can be averaged out by magic-angle spinning (MAS) and radio-frequency (RF) pulse decoupling techniques leading to high-resolution spectra. However, such interactions also contain structural information and need to be reintroduced during selected time periods. This is achieved via strategic interference between RF irradiation and MAS, which prevent averaging of the anisotropic interactions. The design of efficient decoupling and recoupling sequences in solid-state NMR along with the necessity to carry out multidimensional experiments in a short span of time are the main objectives of my talk. In order to achieve these, we have made use of three approaches. This will lead to higher resolution, sensitivity and reduction in experiment duration.

***Friday, Nov 29<sup>th</sup> 2019***

***10:00 AM (Tea/Coffee at 9:30 AM)***

***Auditorium, TIFR-H***