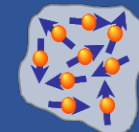


Leipzig Spin Resonance Colloquium

May 12th, 2021 – 16:00 Leipzig time – on Zoom



Prof. William S. Price
Western Sydney University



Faster NMR Diffusion Measurements

NMR diffusometry (also known as Pulsed Gradient Spin-echo NMR, PGSE NMR, Diffusion Ordered Spectroscopy or DOSY) is now the method of choice for measuring translational diffusion. NMR diffusion measurements are often incorporated into MRI measurements to provide local information on diffusion. NMR diffusion measurements can report on the size of the molecule, the environment of the molecule, the geometry that the molecule is moving within (e.g., microstructure), the ordering of the environment, and molecular interactions (e.g., binding or exchange). But NMR diffusion measurements take time, typically from minutes to hours. And many samples change with time due to various types of reactions (e.g., exchange, polymerisation). To properly interpret the NMR diffusion data from such systems requires improvements in theory and/or shorter measuring times. Many methods for conducting rapid NMR diffusion measurements have been presented but most have significant limitations such as being limited to a single diffusing species or having no well-defined timescale over which the diffusion process is probed. In this lecture I will first introduce the field of NMR diffusion measurements and discuss some of its applications. I will then present various means for significantly shortening the experimental time but without any loss in accuracy and, unlike previous approaches, that are totally general in their application.

May 12th, 2021 - 16:00 CEST (Berlin) - 22:00 CST (Peking) - 07:00 PST (San Francisco) - 10:00 EST (New York)

Zoom: <https://uni-leipzig.zoom.us/my/lsrcolloquium>

For Zoom passcode register at: <https://bloch.physgeo.uni-leipzig.de/amr/lsrcolloquium>