



# NanoFemto Group Seminar

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Room: SC 6333

## **Nanotubes as Molecular Containers**

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Carbon nanotubes are a unique class of molecular containers. Different to zeolites and supramolecular cages, they have two nanoscopic dimensions and one macroscopic dimension. These vastly different dimensions allows us to manipulate nanotubes on the local and global scale. Here, I will discuss how molecules self-assemble inside carbon nanotubes. We have inserted several kinds of fullerenes into nanotubes: empty fullerene cages, metallofullerenes, and functionalized fullerenes. Each of these has different kinds of nearest neighbor interactions that alters self-assembly, such as van der Waals, electrostatic, and hydrogen bonding. By carefully choosing the molecules that are inserted into nanotubes, a variety of unique structures can be formed that may alter the functional properties of nanotubes.