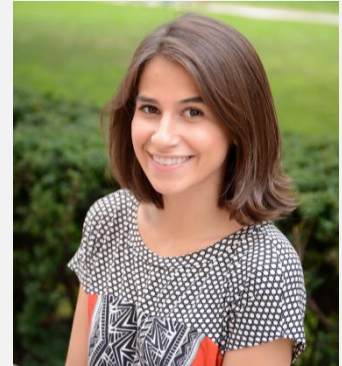


Moments in Materials Presentation: ***Nitrogen-vacancy centers in CVD diamond***

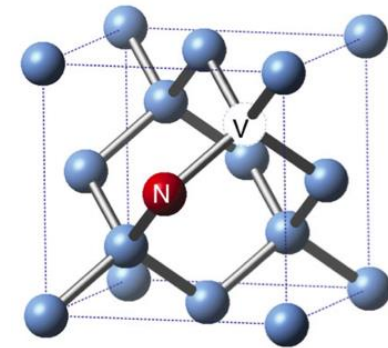
Speaker: Jessica Freyer

When: Thursday, August 14th 2014, 4:30 p.m.

Where: NWC, 6th floor meeting room, RM 602



Technology that exploits the quantum behavior of electrons, such as their spin, promises exciting possibilities in the future of computation, among other applications. While quantum information theory has been around for some time, developing practical systems to control and manipulate single quantum particles remains a challenge. The hardware for such a system must be robust enough to be addressed individually, yet isolated enough to exhibit quantum behavior. The nitrogen-vacancy (NV) impurity in synthetic diamond is a leading candidate for quantum information processing. The intrinsic properties of the NV center and their diamond host, and why these could give rise to a practical quantum computer are discussed, and some fabrication techniques for NV centered systems in diamond are reviewed.



Selected references

L. Childress *et al.* *Science* 13 October 2006: 314 (5797), 281-285