

# **Personal Statement**

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I'm graduate student of Physics Department. I worked on Nuclear Magnetic Resonance(NMR) with Dr. Marzke in last several years.

For the first two years I joined ASU Physics Department, I focused on lessons study, such as Quantum Theory, Materials Physics ect., and I got high GPA( Cumulative GPA: 3.83) in these classes. In the same time, I started to work in lab and study different areas of research. Since I'm interested in Nuclear Magnetic Resonance, I joined Dr. Marzke's group and did some research in this area.

One of my research is on NMR properties of Layered Double Hydroxides(LDH) as MRI contrast agents. I found out relation of NMR relaxation time with iron concentration in LDH, and also analyze magnetic structure of LDH by some measurement on magnetic susceptibility. Based on these research, we already applied for NSF funding for development of nanoparticle MRI contrast drug delivery agent. Another program I attended is about fuel cell, which was supported by DOE. In this research, I focused on diffusivity measurement of ITP(InSnP2O7) under different environment, such as humidity, temperature ect.. Also some work on different treatment on ITP, such as press, heat ect., in order to find stable sample with good conductivity. This section is supposed to be finish before Feb. 2011, then we plan build MRI(Magnetic Resonance Image) in our lab and do some further research on fuel cell with MRI. That would be my main research in 2011.

Besides study and research, I also worked as volunteer in school. In 2009, I volunteered to serve as a research grant

reviewer for the 2009 Graduate Research Support Program(GPSA). After training, I reviewed applications for GPSA and provided opinions that if these applications are qualified for GPSA.

At present, I still work on fuel cell with NMR, and I plan to build Nuclear Magnetic Image(MRI) in our lab and do some further research on fuel cell with MRI.

PS: my advisor Dr. Rober Marzke would like to recommend me to apply this scholarship. His email is: robert.marzke@asu.edu