In this presentation I will take the opportunity to introduce myself and my past research work. I will then present some work I have been involved in at the School of Physics for the past two months. Before my visit here in the School of Physics, I did some work on the sintering of CuAu nanoparticle agglomerates in the gas phase at the Leibniz institute for Solid State and Materials Research Dresden. The sintered agglomerates were characterized after their deposition using transmission electron microscopy. We determined the particle diameter and primary particles per agglomerate as a function of the sintering temperature. The experimental results were analyzed using an empirical law for the primary particle. It turns out that the activation energy for the dominating diffusion process is $E_a=0.22 \text{ eV/atom}$, which is characteristic for surface diffusion in CuAu alloys. Currently, I have been working on the setup of a crack velocity measurement apparatus; to primarily look at crack growth in glass. Our goal was to make the apparatus simple, cost effective, reliable, accurate and automated. To do this we incorporated a computer controlled stepper motor and high speed camera to propagate and measure crack growth in glass samples.

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