The purpose of this research is to develop methods of using silicon nanocrystals made in a non-thermal plasma to create novel, low cost solar cell materials. The first iteration of this work involved depositing a 200 nm layer of heavily doped, n-type nanocrystals on a lightly doped, p-type silicon wafer. The J-V curves shown above are for cells with increasing deposition times leading to increased nanocrystal film thickness.