Dr. Wei Zhang (Postdoctoral Fellow)

P450 21A2 catalyzes the 21-hydroxylation of progesterone and 17$\alpha$-progesterone. A deficiency of enzyme activity results in congenital adrenal hyperplasia and salt-wasting syndrome; > 100 different SNVs have been identified clinically. The bovine P450 21A2 structure is solved with two substrates 17$\alpha$-OH progesterone in the active site. Current studies are focused on more structures of human P450 21A2 and the clinical variants, including the issue of multiple ligand occupancy. Rate-limiting steps in the catalytic cycle and how these change in the clinical variants are being analyzed.