Purines act as potent regulators of the vertebrate cardiovascular system. Adenosine, for example, is released from oxygen-deficient cells in an attempt to increase perfusion and/or decrease metabolic work. Whilst purinergic signalling is well studied in several vertebrate classes, very little is known about the role of purines in the reptile cardiovascular system. During my project, I have studied the haemodynamic effects of adenosine on anaesthetised turtles, along with carrying out an in vitro study on heart strip preparations from pythons, turtles and crocodiles. The results suggest cardiac purinoceptors are ubiquitous across the reptile phylogeny and adenosinergic regulation is likely to be an important regulator of reptile cardiovascular physiology.