Objective
The respiratory system is essential for mammalian life, and is extremely complicated. Our researchers are world leaders in advanced lung imaging, tackling significant diseases such as asthma, ventilator lung injury and cystic fibrosis. We regularly conduct experiments at the Australian Synchrotron, accumulating hundreds of 4DCT scans, terabytes of raw imaging data, and months of analysis work for our researchers. The objective of this project is to reduce the required researcher time from months to hours.

Project Details
For this project, you will develop a ‘turn-key’ analysis process, completely automating the analysis work-flow, to reduce the time from experiment to data and free up the analysis bottleneck. You will work closely with researchers to learn the analysis steps and then integrate multiple analysis methods to completely remove the researcher from the process. This will greatly accelerate our important work and allow more data to be analysed to create impact in all areas of lung disease.

Prerequisites
Experience with Python, Linux and Matlab will be advantageous. An interest in image analysis and data science is essential.

Additional Information
Students should only apply if they are interested in continuing the project further through a Final Year Project or possible post-graduate degree. Contact supervisor for additional project details.