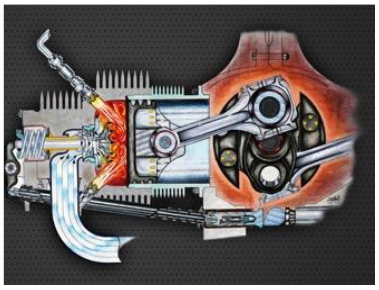
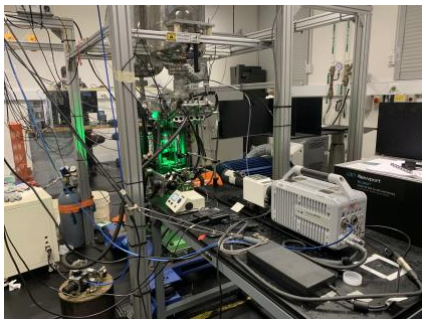
PhD Scholarship in Energy-Assisted Engines for Unmanned Aerial Vehicles

Future compression ignition engines should accommodate fuels made from a wide variety of sources, which often have low reactivity. This is where energy assisted ignition is required for the engines used for unmanned aerial vehicles. We are looking for a PhD student who will perform optical diagnostic research of energy assisted ignition system with a focus on flow, turbulence, mixture distribution and reactions. From this PhD research, your engineering skills and project management capability will be fully developed.



Group 3 (55-1320 lb) and Group 4 (>1320 lbs) CI engines for unmanned aeroplanes



At the UNSW Engine Research Laboratory, we have optically accessible engine facilities and lasers/cameras enabling the visualisation of flow and reaction species inside the cylinder of the engine while the engine actually runs like a real engine. Upon the completion of PhD study, you will become a world leading researcher in optical/laser diagnostics of complex energy systems with ample lots of engineering skill sets and extensive research networks – these are critical for you to grow as a leading research engineer or engineering consultant. How do I know? I have supervised 17 PhD/MPhil graduates like that.

This project is performed in collaboration with US Army Research Laboratory and two US universities including University of Wisonsin, Madison and University of Illinois, Urbana Champaign. You will visit these institutions and interact with them. For your full commitment and expected excellent performance, you will be offered a top-up scholarship up to the maximum full-time rate of $45,076 as of 2022.

If you would like to know more about this project, please email Professor Shawn Kook (s.kook@unsw.edu.au). Please also visit the research website (or internet search “unsw engines”): https://research.unsw.edu.au/projects/engines