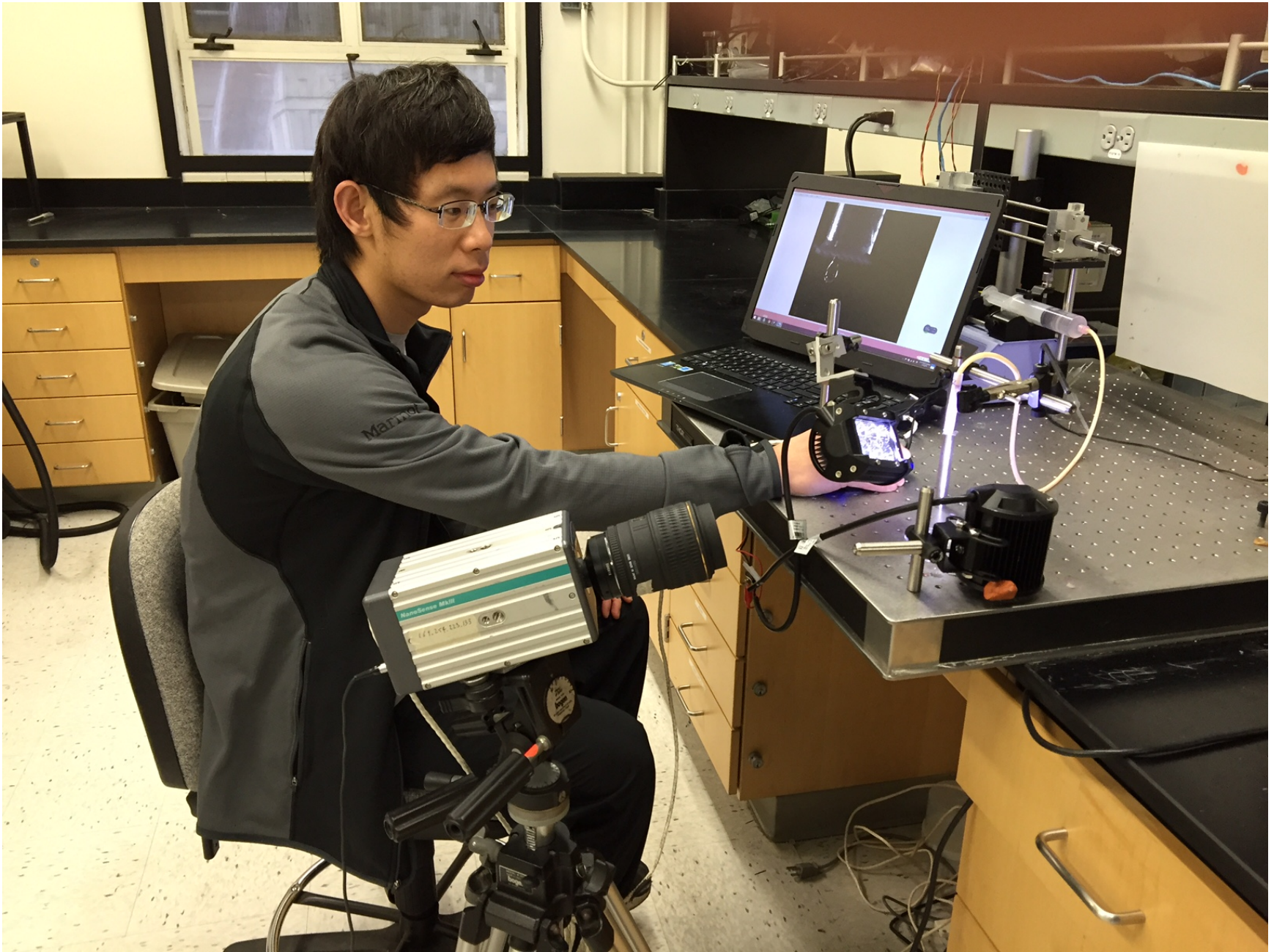


Look how far Engineering Science has taken me



NUS Engineering alumnus Wang Cong (Class of 2013) is now into groundbreaking research at Caltech.

ENGINEERING Science at NUS Engineering has proven to be a great choice for Mr Wang Cong. The Programme has instilled in him an enquiring and probing mind that does not stop even when targets are met, and results are obtained.

Said Cong, "The projects we had in Engineering Science involve the application of knowledge in multiple disciplines. This kind of training has enabled me to break barriers and to intuitively integrate knowledge and skills."

With such a mindset and strong foundation, Cong went on to do his PhD at the California Institute of Technology (Caltech). Now in his 3rd year, Cong has developed a technology which will pave the way for more efficient and smaller pressure valves that would have applications in biomedicine as well as other fields.

Said Cong, "Valves using our technology can be scaled down to even nano size without high cost because they would not require the traditional mechanism that enable them to open and close. Hence they can be made so small that they can easily be inserted into blood capillaries, for example. Our experiment results have demonstrated that the critical pressure that determines valve opening and closing could be tuned by adjusting surface hydrophobicity (water repelling property) and opening size."

Drawing his experience from his undergraduate days with the Engineering Science Programme, Cong had gone further afield from what he was working on, to come out with the valve design.

"When I hit upon the idea of these valves, I was actually researching on the effects of super hydrophobic surface which could reduce drag and hence increase efficiency of liquid or gas transportation or container ship freight transport. Fundamental research could go a long way and lead to vast potential applications," he added.