

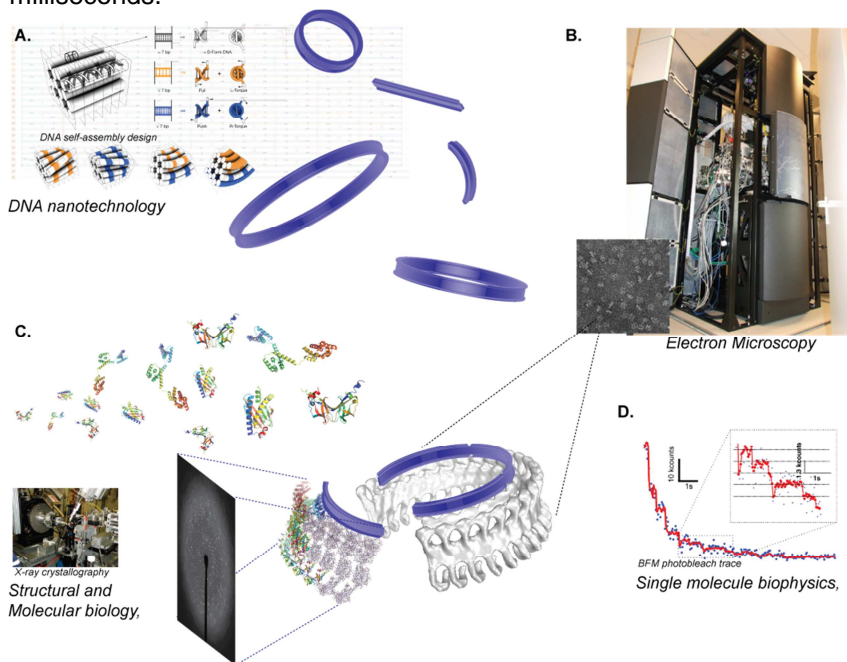


Lawrence Lee, PhD
Group Leader
Structural and computational Biology Division

Artificial synthesis of nature's most sophisticated nanoscale motor

The molecular motors group at the Victor Chang Cardiac Research Institute in Sydney Australia seeks enthusiastic applicants to undertake exciting short-term projects in molecular or synthetic biology, or nanobiotechnology. The molecular motors group is a newly established research program that uses multi-disciplinary and innovative approaches to understand large biological machines and to create new nanometer scale devices from a fusion of synthetic and biological components.

Successful applicants will have the opportunity to join an international consortium and work on an innovative new project to artificially construct biological nanomachines using custom designed DNA origami nanostructures. This project will focus on the artificial synthesis of the bacterial flagellar motor (BFM), nature's most sophisticated nanoscale rotary motor. It is equipped with an impressive molecular engine and has been clocked rotating at over 100,000 revolutions per minute yet can switch directions in just a handful of milliseconds.



Selected publications:

Lee, L. K., Ginsburg, M., Crovace, C., Donohoe, M., Stock, D.
Nature 466(7309), 996 (2010)

Lee, L. K., Stewart, A.G., Donohoe, M., Bernal, R.A., Stock, D.
Nature Structural and Molecular Biology 17(3): 373-378, (2010).

Stock, D., Namba, K., Lee, L.K.,
Current Opinion in Biotechnology 23(4):545-54 (2012)

Depending on the specific project, the internship will provide a rare opportunity to work with a diverse range of techniques. These include, the design and synthesis of DNA origami nanostructures, protein synthesis and purification, electron microscopy, single molecule fluorescence microscopy and synchrotron X-ray scattering methods.

Successful candidates will be awarded a modest stipend to cover return airfares and some living expenses in Sydney, Australia.

Interested applicants should email a recent CV to Dr Lawrence Lee (l.lee@victorchang.edu.au)

