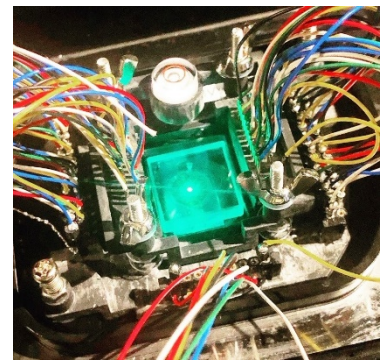


Nanoelectronics Group

School of Physics, UNSW

Seeking expressions of interest for our Ph.D. project “Seeing is believing: Microscopy-capable nanoelectronics for simultaneous optical/electrical study of biomolecules”

We are seeking expressions of interest to apply for Australian Government Research Training Program (RTP) scholarships to join us for an interdisciplinary project aimed at developing new bioelectronic sensor technologies for studying membrane proteins at single molecule level by electronic methods. A key goal is to implement this such that the devices can simultaneously be studied using advanced biological microscopy techniques. The project involves collaborations between the Schools of Physics and Medical Sciences at UNSW and international partnerships with the UK, Japan, Sweden & Germany.



This project is suitable for experimentally inclined students with a physics, biophysics, chemistry, nanotechnology or engineering background (it may suit biotech students with electronics experience also). It includes strong opportunities for hands-on work on nanoscale device fabrication using high-tech equipment in UNSW's cleanroom facilities, integration into advanced optical microscopy systems, high-sensitivity real-time electrical measurements and associated circuit design, as well as signal processing and data analysis development.

Applicants need to be self-funding (i.e., obtain a scholarship) but we are very willing to assist with postgraduate scholarship applications for suitable candidates. For more details on scholarships at UNSW, see: <https://research.unsw.edu.au/graduate-research-scholarships>

Research Training Program (RTP) applications for Term 1 2021 start close on 18th Sept. 2020. We are open to discussion about later RTP scholarship rounds at UNSW also (Term 2 & 3 2021).

Applicants should have an undergraduate honours degree in physics, chemistry, engineering or a related area and an interest in interdisciplinary science. A masters is an acceptable substitute for honours and a plus in addition (e.g. honours plus masters in an allied topic). Selection will be based on grades only to the extent that they facilitate scholarship applications with a reasonable likelihood of success – for us there is much more to ability & aptitude for Ph.D. studies than course marks alone.

We will be highly selective on aptitude and ability, however, as this project requires a candidate interested in challenging lab-work with strong attention to detail, a positive 'can solve' attitude to problems, excellent experimental method, and an ability to work independently and think for themselves with good rational logic. Candidates should be excellent team players willing to contribute to collaborative projects and engage well with our collaborators both within and outside UNSW. Candidates should have strong work ethic but also a sensible attitude to work-life balance and interests outside science. Our group believes happy, balanced people do much better science; we like to come in, focus on getting our work done efficiently & effectively and then go home and have a life. Strong time-management and organisational skills will be considered a major plus along with strong scientific writing abilities. We are equally happy with candidates that are seeking post-Ph.D. careers outside academia (e.g., industry, government), many of the skills required outside academia are useful here also.

For further information about our group, see: <https://newt.phys.unsw.edu.au/nanoelectronics/> or feel free to contact Adam directly to arrange a discussion.