



2018-2022 PhD studentship (University of Liverpool, United Kingdom)

## Self-Assembly, Function and Engineering of Macromolecular Machinery

Self-assembly is a common and important phenomenon in biology, physics and chemistry. Biological organisms have evolved large self-assembling organelles (i.e. photosynthetic apparatus and microcompartments), to enhance cellular metabolic activities. The project will apply molecular genetics, biochemistry, synthetic biology, high-resolution microscopy imaging and computational modelling to study the molecular basis underlying the self-assembly, dynamics and regulation of macromolecular machines that are responsible for photosynthesis and carbon fixation. We will elucidate how nature creates and regulates these machines in response to the changing environment. Advanced understanding will facilitate the rational design and engineering of artificial machineries, and provide solutions to grand challenges such as food and energy security and therapeutic development.

The Institute of Integrative Biology at the University of Liverpool (UK) provides a unique combination of facilities and expertise for research, including the Centres for Cell Imaging, Synthetic Biology, Genomics, Proteomics, Structural Biology, Bioinformatics and Computational Modelling. Training in all aspects of the project will be provided with access to state-of-the-art infrastructure in the Institute and with collaborators in the UK, Europe, US, China and Australia, which are excellent opportunities for career development.

The PhD studentship will be funded by Liverpool-China Scholarship Council (CSC) Award program and start from October 2018 for 4 years. Highly motivated applicants with a master degree in molecular biology, biochemistry or equivalent are encouraged to apply. The applicant should hold a valid English language test certificate (IELTS6.5). Experience in microscopy would be an advantage. Please send a CV and a cover letter, as soon as you can, to Dr Luning Liu ([luning.liu@liverpool.ac.uk](mailto:luning.liu@liverpool.ac.uk), [www.luningliu.org](http://www.luningliu.org)). **The deadline for scholarship application is 12<sup>th</sup> January 2018.**

*References: Mol Plant, 2017, 10(11):1434–1448; Nanoscale, 2017, 9:10662-73; Science, 2017, 356:1293-7; Nano Lett, 2016, 16:1590-5; Plant Physiol, 2016, 171:530-41; Trends Plant Sci, 2013, 18:277-86; Science, 2013, 342:1104-7; Cell, 2013, 155:1131-40; PNAS 2012, 109:11431-6; PNAS 2011, 108:9455-9; Science, 2010, 327:1258-61.*

