NANYANG TECHNOLOGICAL UNIVERSITY

School of Biological Sciences

Seminar Announcement

Molecular chaperone machineries for the biogenesis of RuBisCO, the most abundant protein

Date: 30 October 2015 Friday

Time: 11:00am to 12:00pm

Venue: SBS Classroom 4 (SBS-01n-24)

Host: Asst/Prof Oliver Mueller-Cajar

Speaker: Dr. Manajit Hayer-Hartl
Department of Cellular Biochemistry
Max Planck Institute of Biochemistry
Germany



Abstract

Photosynthesis is a fundamental process in biology as it converts solar energy into chemical energy and thus, directly or indirectly, fuels nearly all life on earth. The chemical energy generated during the light reaction of photosynthesis is used to fix atmospheric CO_2 and produce reduced carbon compounds in the Calvin-Benson-Bassham (CBB) cycle, the second step of the process. The key enzyme responsible for carbon fixation in all photosynthetic organisms is ribulose-1,5-bisphosphate carboxylase/oxygenase (RuBisCO). Interestingly, RuBisCO is not only the most abundant protein in nature but also one with a remarkably high chaperone requirement for its biogenesis. I will discuss the complex chaperone machineries that are required for the folding, assembly and the functional maintenance of RuBisCO.