Institute of Molecular and Cell Biology
A*STAR

SEMINAR ANNOUNCEMENT

We would like to invite you to attend this seminar hosted by Prof. Wanjin Hong:

Date: 15 July 2014, Tuesday
Time: 11:00AM – 12:00PM
Venue: Level 3, IMCB Seminar Room 3-46, Proteos, Biopolis

Speaker: Prof. Senyon Choe, Professor, Structural Biology Laboratory, The Salk Institute, USA
Title: Protein engineering of TGF-beta superfamily ligands

Choe and his colleagues established a novel protein-engineering platform termed "RASCH (Random Assembly of Segmental Chimera and Heteromer)" to engineer TGF-beta superfamily ligands. These designer biobetter ligands are to target specific cells and instruct them for cell regeneration. The pilot study employing RASCH platform technology led to discovery of several synthetic biologics (synbiologics ®) with new clinical potentials for bone-related diseases and liver cancer. They have been also used for *ex vivo*-cell conditioning to develop therapeutic cells for obesity and diabetes control. An international research consortium, *Drug Discovery Collaboratory (DDColl)* has been put together to promote collaboration among public research institutes, industry and academia. Efforts to expand the RASCH strategy to other protein families will facilitate discovering therapeutic synbiologics.

Biography:
Senyon Choe studied in the laboratory of Dr. Robert Stroud (UCSF) and received his degree from University of California, Berkeley in 1987. After a short postdoctoral stint at Macromolecular Cornell High-Energy Synchrotron Station (MacCHESS) at Cornell University, he joined David Eisenberg's laboratory at UCLA to study diphtheria toxin and of a synthetic coiled-coil. He is the founding faculty of the Salk Institute's new Structural Biology Laboratory in 1993. To address the molecular mechanisms of cell-cell communication, his group mainly focused on potassium channels and TGF-beta superfamily, and cytoskeleton system. His group has established a new toolset of protein engineering to explore the possibility of designing synthetic biologics derived from TGF-beta superfamily ligands to modulate sick cells. His major honors include election in 1999 to the Fellow of American Association for the Advancement of Science in recognition for his frontier science in biophysics of K channels and of TGF-beta ligands.

ALL ARE WELCOME *(No registration required)*