SEMINAR ANNOUNCEMENT

We would like to invite you to attend this seminar hosted by A/Prof. Frederic Bard:

Date: 13 June 2014, Friday
Time: 11:00AM – 12:00PM
Venue: Level 3, IMCB Seminar Room 3-46, Proteos, Biopolis

Speaker: Dr. Gianni Guizzunti, Research Associate, Institut Pasteur, Paris, France
Title: The Fate of Prion Protein GPI-Anchor Signal Peptide

Prion diseases are fatal neurodegenerative diseases of infectious, sporadic or inherited origin, affecting humans and other animals. The disease is caused by the conversion of the normal cellular prion protein (PrPC) into the infectious abnormal prion protein (PrPSc), which accumulates in the brain and ultimately results in synaptic degeneration and neuronal death. The prion protein is a glycoprotein that localizes to the plasma membrane via a C-terminally linked glycosylphosphatidylinositol (GPI) anchor. The GPI anchor is added concomitantly to the cleavage of the carboxy-terminal GPI-anchor signal sequence, thereby causing the release of a C-terminal peptide (GPI-SP), whose fate had never been investigated. We were able to establish a link between PrP GPI-SP accumulation and prion diseases, particularly showing that the PrP GPI-SP, when expressed as a cytosolic peptide, is able to localize to the mitochondria and to induce mitochondrial fragmentation and vacuolarization, followed by loss in mitochondrial membrane potential ultimately resulting in apoptosis. These results provide the first attempt to address the fate of GPI-anchor signal peptides and identify the GPI-SP of PrP as a novel candidate responsible for the impairment in mitochondrial function involved in the synaptic pathology observed in prion diseases.

Biography:
Dr. Gianni Guizzunti is a research associate at Institut Pasteur, Paris, France. He received his Ph.D. from the University of California, San Diego, where he worked on the analysis of the Golgi apparatus, from its role in secretion to the maintenance of its organized structure. After his Ph.D., Dr. Guizzunti decided it was time for a change of scenery (and weather) and moved from sunny San Diego to cloudy, gray Paris. There, he joined the Institut Pasteur, where he has continued his research in the field of cell biology studying the role of the prion protein in neurodegeneration. He is the recipient of both FEBS and FRM long term fellowships. He will soon join UT Southwestern, Dallas, Texas, to return to his first love: the Golgi complex.

ALL ARE WELCOME *(No registration required)*