

Seminar Announcement

The Strength of Transient (Weak) Biological Interactions: from Theory to Applications

Date: 12 February 2016 Friday

Time: 4pm

Venue: Classroom 1, SBS

Speaker: Prof. Sten Ohlson
School of Biological Sciences, NTU



Abstract

Transient or weak biological interactions, either working alone or in concert, occur frequently throughout biological systems and we are now starting to appreciate their significance in complex biological settings. In your area of biochemical research, you have probably encountered events relating to weak biological interactions but indeed you may have a challenge to track them down. In fact, the interactome is far larger than we earlier have anticipated as we now realize that weak interactions shape major parts of the intra- and inter cellular network. It is therefore of utmost importance to develop tools to explore these weak interactions in more detail (if you can't see them, they don't exist) and to understand their role in biological networks.

In my presentation, I will focus on key aspects of transient biological interactions in Nature, development of new tools for studying weak interactions and how they can be applied to drug discovery and clinical diagnostics. Examples will be given on our research program on WAC (affinity LC/MS) applied to drug discovery, the design of transient drugs applied to cancer and antibiotics and clinical diagnostics for analysis of steroid hormones. Furthermore, applications will be presented on biosensors as continuous monitoring devices in diabetes control.

The purpose of my talk today is to open your eyes for the relevance and applicability of weak interactions in a biological context and to overcome any doubts you may have that they are only a nuisance as they are supposed to be "non-specific" and therefore of no value.