



# NSI Meeting Announcement

Date: Wednesday, November 22, 15:00 – 16:00

Venue: Lille Auditorium, Domus Medica, Gaustad

## NSI Annual Meeting

### Main lecture

by

### Professor Hans-Gustaf Ljunggren

### *“NK cells - Activation, tumor recognition and immunotherapeutic strategies against cancer”*

#### Abstract

Using reductionism approaches, we have started to delineate the mechanisms behind activation of resting human NK cells. Activation of resting NK cells for cytotoxicity is induced by specific combination of different activation receptors, signaling via distinct pathways. A detailed analysis of the contribution of signaling via individual receptors reveal distinct qualitative responses including granule polarization and degranulation, each contributing to effector function in natural cytotoxicity (Bryceson et al., JEM, 2005; Bryceson et al., Blood 2006). Although NK cells are known for their ability to kill tumors, surprisingly few studies have investigated the interactions between resting (non-activated) NK cells and freshly isolated human tumors. Using knowledge obtained from reductionism approaches described above, we have approached more complex systems including that of human tumors. For several human tumors, we delineate ligands and receptors involved in activation of resting NK cells. Based on these and other findings in our laboratory, current ongoing and future strategies for NK cell-based immunotherapy against human cancer will be discussed.

#### About the speaker

Hans-Gustaf Ljunggren MD, PhD, received his degrees from the Karolinska Institutet. Ljunggren has conducted post doctoral research at MIT, Boston, USA. Dr Ljunggren is currently a professor at the Department of Medicine, Karolinska Institutet, a position he has held since 2001. Ljunggren has published some 175 papers within immunology, in particular on NK cells. His general scientific interest is in the understanding of the molecular basis for initiation of immune responses. Much of his research has focused on NK cells, where he has made original discoveries with regards to their molecular specificity. Although many of his studies started off from a basic scientific approach in experimental models, his focus has more recently shifted towards more human oriented and in part translational oriented research projects. One strong current interest lies in the understanding of activation of human natural killer (NK) cells and in the possibility of using such cells in treatment of human hematological malignancies, e.g., in adoptive immunotherapy.



#### Welcome!



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