Seminar/Talk

From basic glycobiology to targeted immunotherapy

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Host: Gasper Tkacik

The surface of every living cell is covered with a dense matrix of glycans. Its particular composition and structure codes important messages in cell-cell communication, influencing development, differentiation, and immunological processes. The matrix is formed by highly complex biopolymers whose compositions vary from cell to cell, even between genetically identical cells. The function of this glycocalyx is mediated by a multivalent display of glycans that interact with lectins, glycan-binding proteins expressed by all living organisms.
In this talk, I will give an introduction into basic glycobiology and the guiding principles we can derive to foster our molecular design strategies for targeted immunotherapy. In particular, I will focus on our ongoing research into the specific delivery of nanoparticles to Langerhans cells, a dendritic cell subset of the human skin, for therapeutic tumor vaccination. For this, we apply highly sensitive biophysical techniques such as NMR and SPR combined with cell-based assays inspired by the lessons glycobiology has taught us on how specific interactions can arise from multivalent display of sugars.

Tuesday, April 11, 2017 01:30pm - 02:30pm
Mondi Seminar Room 1, Central Building

This invitation is valid as a ticket for the ISTA Shuttle from and to Heiligenstadt Station.
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