DISTINGUISHED LECTURE in BIOLOGICAL ENGINEERING

“Synthetic Immune Systems to Outsmart Cancer”

Tuesday, April 17, 2018 – 16h15 (*)
EPFL – room SV1717

(*) mind the unusual time of day for this talk!

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Host: Prof. Li Tang

Abstract:
During the past decade we have extensively explored dendritic cell based cancer vaccines. Dendritic cells (DC) isolated from a patient are loaded with tumor antigen and immune modulators to activate dendritic cells to optimize antigen presentation and T cell stimulation. We now know that this form of immunotherapy is safe and more recently we have also started to use natural DC circulating in the blood instead of monocyte derived DC. In particular myeloid DC and plasmacytoid DC are a powerful combination, now being tested in a phase III trial.

Because with current DC based vaccinations a new vaccine must be generated for each patient, we have initiated studies to look for alternatives, where we either can target DC in vivo or even replace DC by the generation of ‘synthetic DC’. During my talk I will elaborate on these novel cancer vaccine developments and on the idea to design ‘synthetic lymph nodes’ for local cancer treatment.