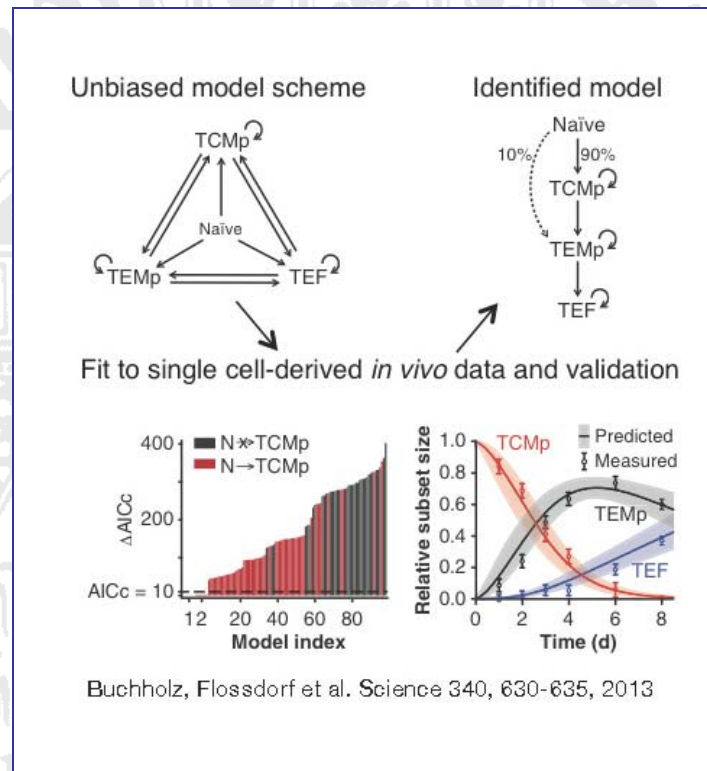


PHYSIKALISCHES KOLLOQUIUM

AM 20. JANUAR 2014 UM 17 UHR C.T.

IM GROßEN HÖRSAAL



CELL DIFFERENTIATION, STOCHASTICITY AND MODEL INFERENCE

PROF. DR. THOMAS HÖFER

DKFZ – GERMAN CANCER RESEARCH CENTER,
HEIDELBERG

Division, differentiation and death of cells orchestrate embryonic development, tissue maintenance and immune responses and become deregulated in cancer. As the rates of all three processes are proportional to cell number, the inference of their contributions to a biological process from experimental data presents a formidable problem. Largely because of this bottleneck, competing theories have persisted on how immunological memory is formed; likewise, it has remained unknown how hematopoietic stem cells expand and differentiate to give rise to all blood cell types. In my talk, I will show how we combined data-driven mathematical modeling with novel experimental approaches to shed new light on these long-standing questions.