

**Department of Physics**, **Medical Physics and Radiation Research** 



# Current research topics in Radiation Research

Uwe Schneider, Department of Physics, Science Faculty, University of Zürich and Radiotherapy Hirslanden, Witellikerstrasse 40, Zürich, Switzerland

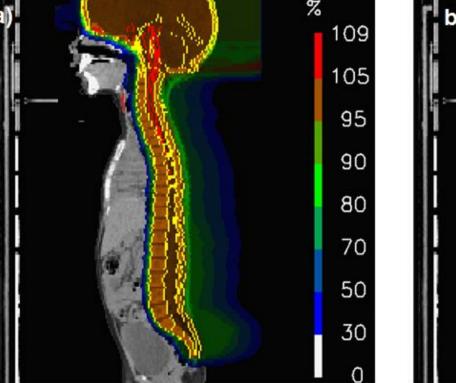
#### Nanodosimetry

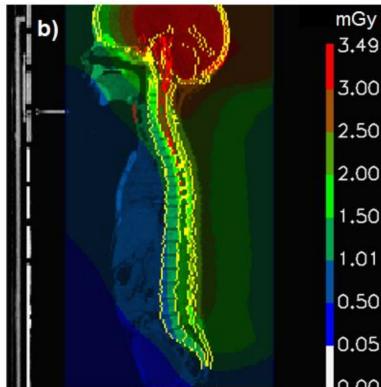
**Measurements of ionizations in DNA** volumes to quantify radiation damage

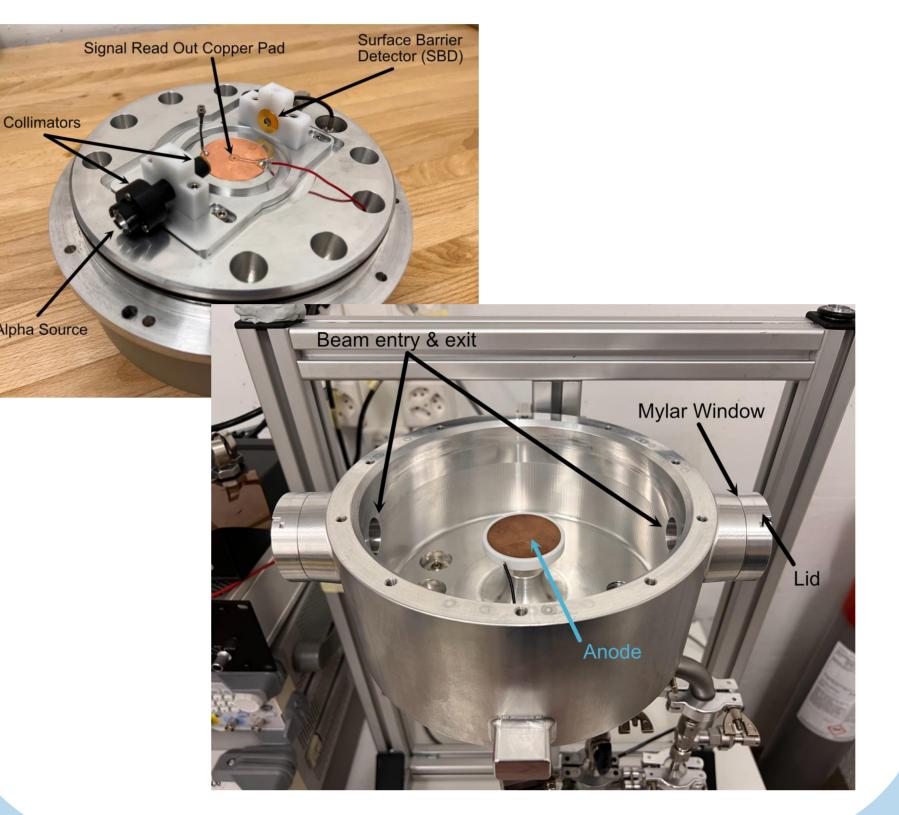
# **Neutron dose models** for radiotherapy

**Proton dose** 

**Neutron dose** 







# Cell kill, RBE and normal tissue complication

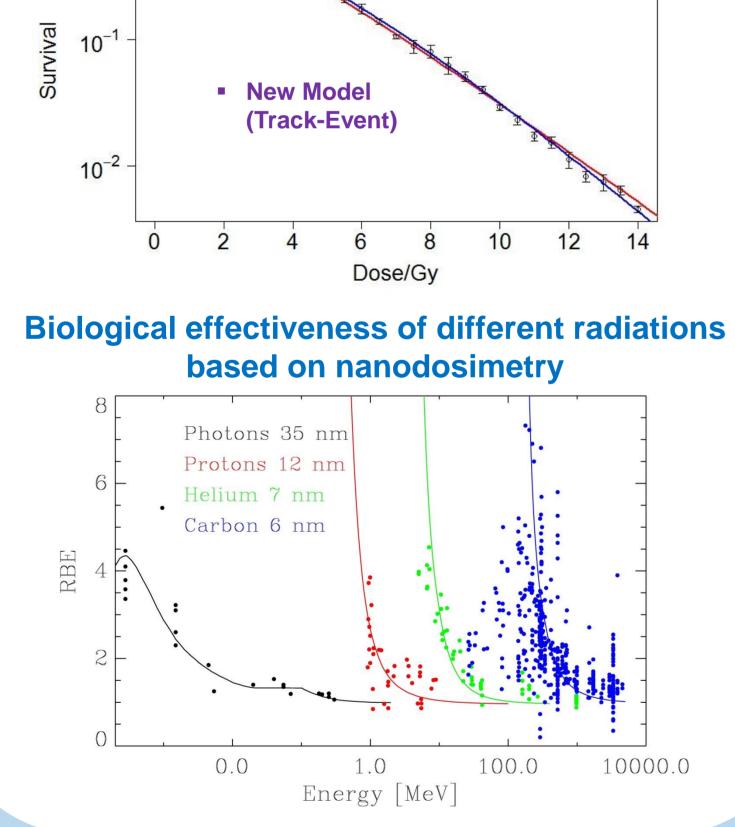
**Cell survival models for large radiation dose** 

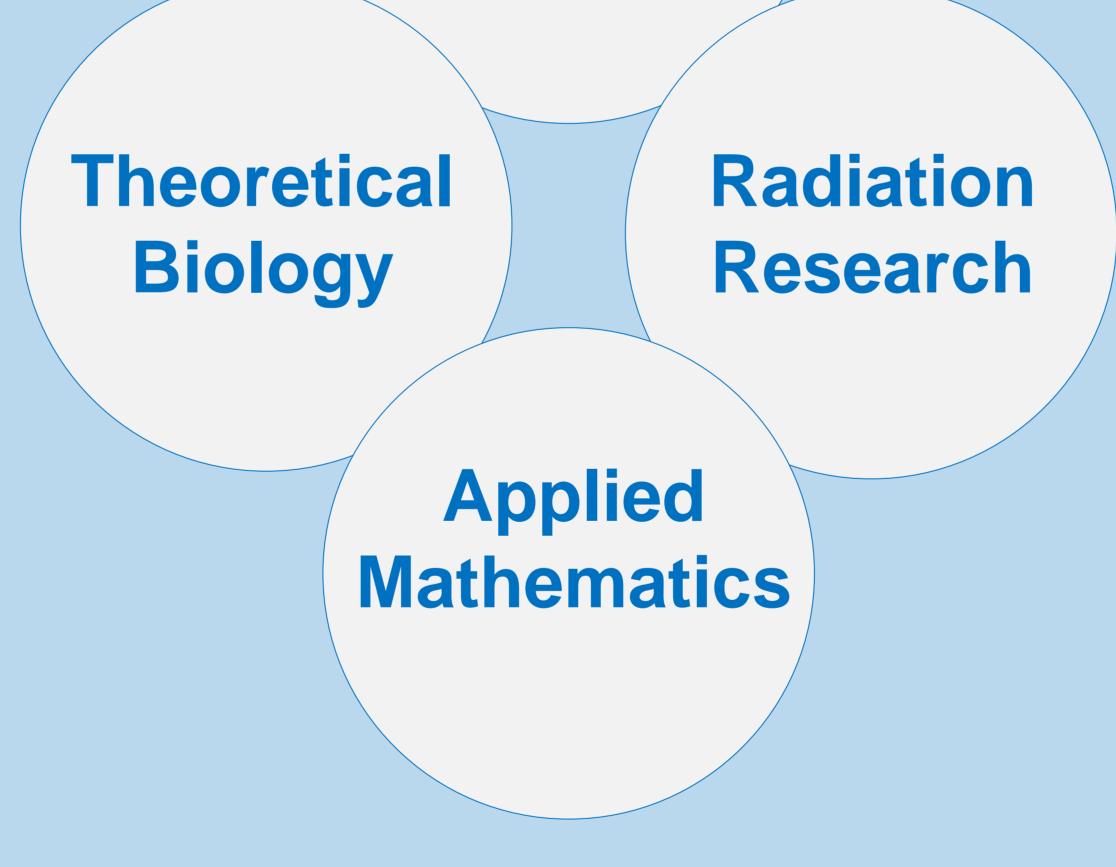
Hug-Kellerer

Medical **Physics** 

## Whole Body dose calculations

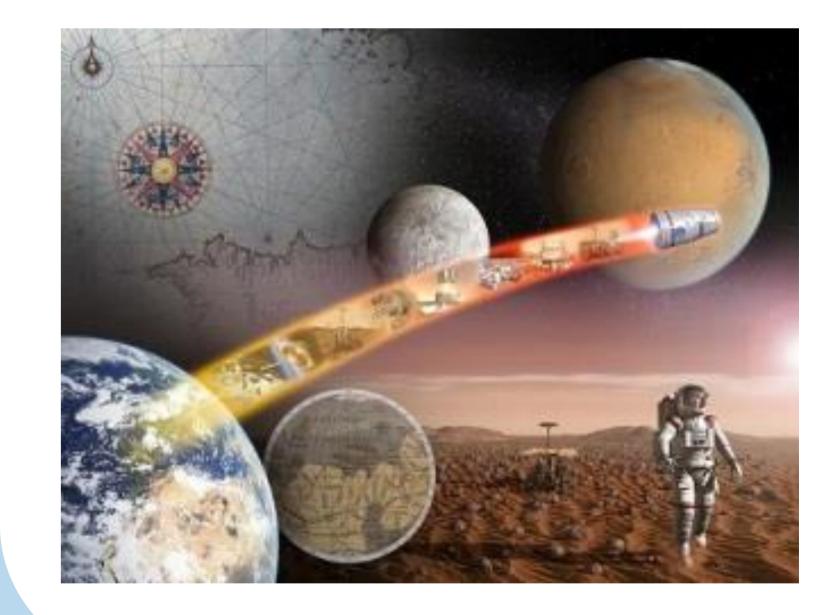




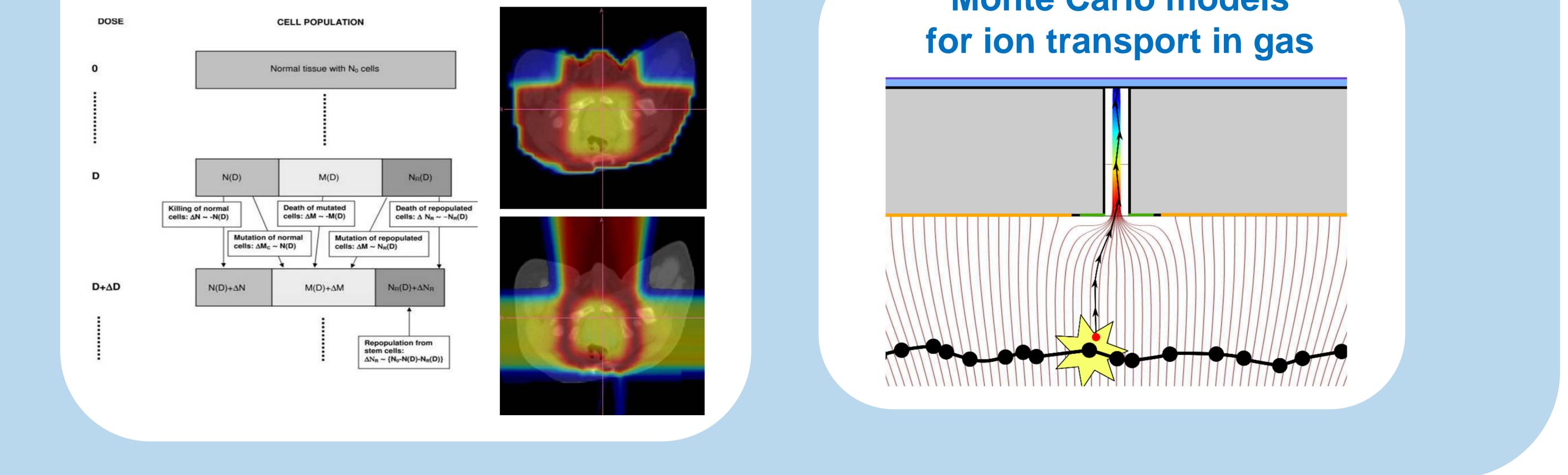


### **Space radiation risk**

**Development of models for long term missions** 



### **Bio-Physical models for cancer** induction



**Monte Carlo models**