



**21.02.2017, Mary Helen Barcellos-Hoff, Ph.D.**

### **'Integrative Approaches to Radiation Biology'**

Mary Helen Barcellos-Hoff is the new Mercator fellow of GRK1739 and visited us in February for few days to give us some insights into her research and she had the opportunity to get an impression about our projects and GRK system as well. Mary Helen is a vice chair and research director of Radiation Biology at the Department of Radiation Oncology at the University of California in San Francisco since 2015. Her comprehensive research basically focuses on radiation-induced carcinogenesis and its effects on tissue interaction and cell phenotype. Here, the issue would be to inhibit the carcinogenic effects in irradiated tissue and put more effort into better understanding the carcinogenic events. Additionally, the transforming growth factor  $\beta$  (TGF $\beta$ ) seems to be a promising candidate to affect radioresistance and cellular DNA damage response. In normal epithelial cells TGF $\beta$  is responsible for controlling proliferation as well as differentiation. It is strongly activated in irradiated epithelial cells and is crucial for DNA damage response. Combined therapy including radiation as well as TGF $\beta$  inhibitors as radiosensitizers could be a smart way to overcome radioresistance.

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