



Ph.D. Biophysics day July 10-11, 2025

Theorie Seminarraum SB3 3.170a
or Zoom

<https://tu-darmstadt.zoom-x.de/j/62414031901>

Presentations: 10 min + 5 min discussion

Agenda – Thursday, July 10

12:00 Group Photo (meet in the external area between our building and mensa)

13:15

Welcome

13:25

Vivian Augusta Sarpey: Generation and utilization of a model cell system to study DSB repair pathway choice at different radiation qualities by live cell microscopy

13:40

Leon Kaysan: Beyond the Green Seahorse: The next Step for Brain Assembloid Complexity and Utility

13:55

Kim Knorr: MiHBO: Human cerebral organoids as an organotypic 3D in-vitro model for neuroscience under earth and space conditions

14:10

Malte Benje: The CANTO Project: Effects of Radiation on Circulating Cancer Cells and Metastasis Formation

14:25 *Coffee break*

14:35

Amelia Jansen van Vuuren: The gut MICROBiome as a Biomarker for space radiation risk (MICROBIAN)

14:50

Kai Wen: Effects of Ne-Ion FLASH Radiotherapy on Glioblastoma in Rats

15:05

Tamara Vitacchio: Radioactive ion beams for tumor treatment and online range verification: first demonstration in a murine model

15:20

Gaia Volpi: Radiation effect on murine sarcoma cells and tumor with focus on hypoxic conditions and complement activation

15:35

Niccoló Edgar Saccone: Tumor growth and local immunomodulatory effects of irradiation in vitro and in WT and complement deficient mice (ENDORSE)

15:50 *Coffee break*

16:00

Peter Dick: Systemic effects of ionizing irradiation and involvement of the complement system in a sarcoma mouse model (ENDORSE)

16:15

Warisara Charuchinda: Translational Research in FLASH Absolute Dosimetry with Synchrotron Beams

16:30

Hong Ha Nguyen: Physics and Technical Experiment for FLASH irradiation with Carbon ions

16:45

Andreas Bückner: Towards Carbon Super-FLASH: Beamline design and modulation physics

17:00 *Adjourn*

Agenda – Friday, July 11

9:15

Welcome

09:20

Cosimo Galeone: Experimental validation of real-time 4D-dose reconstruction for irregular motion in carbon ion therapy.

9:35

Guangru Li: New approaches in heavy ion arc therapy: LET boost by Particle Arc irradiation (LEOPARD) & Passive Arc energy modulation (PANGOLIN)

09:50

Maximilian Leon Dick: Absolute Carbon Range Prediction for a mixed Helium-Carbon Beam

10:05

Maria Chiara Martire: Carbon ion therapy for lung cancer: key challenges and potential solutions

10:20

Anastasiia Quarz: An AI dose engine for fast carbon ion treatment planning

10:35 *Coffee break*

10:45

Vladislav Sandul: Effects of radiotherapy on the immune system: clinical studies and mathematical modeling

11:00

Kim Sennhenn: Signatures of hyper-radiosensitivity after high-LET radiation – a mechanistic modeling approach

11:15

Christian Deglow: RBE model comparison: General aspects and application to lung cancer

11:30

Luca Lunati: Bringing Space to Earth: the 2025 GCR Simulator at GSI-FAIR

11:45

Virginia Boretti: RBE based predictions of space radiation exposure effects

12:00 End of the Ph.D. day