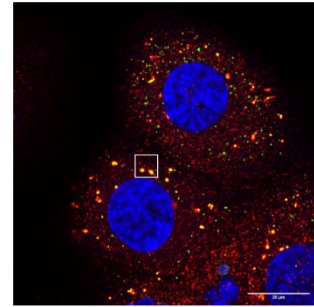


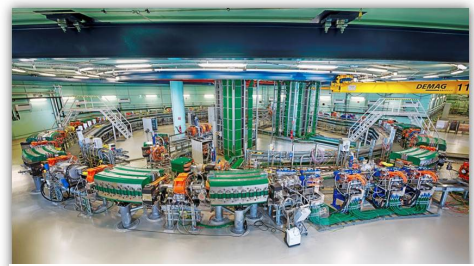
Master's position in radiation and cancer cell biology

Particle radiation has many advantageous properties compared to conventional X-ray radiotherapy for cancer due to its superior dose distribution, with the highest dose being delivered at the tumor site and limited radiation damage to the healthy surrounding tissue. At the MedAustron Ion Beam Therapy and Research Center we have access to the particle accelerator for protons and carbon ions. In this Master's project we would like to 1) compare the effect of X-rays, protons, carbon ions and small molecule inhibitors on cell viability of various cancer cell lines, 2) analyse cell death pathways (apoptotic vs immunogenic) that are induced as a result of these treatments, and 3) analyse DNA damage and STING/MAVS immune signalling pathways.



Irradiated pancreatic cancer cells release dsDNA in the cytosol.

This project is a collaboration with the Mayo clinic in USA. In this project you will gain expertise in the following techniques: cell culture, X-ray and particle irradiation using a particle accelerator at MedAustron, cell viability assays, molecular biology techniques such as RT-qPCR, ELISA, western blotting, immunofluorescence.



Synchrotron at MedAustron.

We are an interdisciplinary team of biologists and biotechnologists who are keen on harnessing radiation to devise new treatment strategies for cancer: www.sladelab.org. The MSc thesis will be carried out at MedAustron in Wiener Neustadt. The start date is May 2025 and the duration of the MSc project is 9-12 months. The student will receive a stipend of about €500 per month.

Please send your CV, motivation letter and grade transcript to dea.slade@meduniwien.ac.at by January 31st 2025.