



Sarah-Maria FENDT
Fundamental Biomedical Research

The 2023 Francqui Prize in Fundamental Medical Research is awarded to Professor Sarah-Maria Fendt for her seminal contributions to the understanding of the role of metabolism in tumour metastasis. Although gene mutations and changes in protein activity are considered predominant drivers of the metastatic process, the plasticity of metabolism in cancer cells has gained more attention as an important component of tumour resistance to therapy. Sarah-Maria Fendt shows that cancer cells are dynamic and can change their metabolism depending on their stage, starting in the primary tumour, disseminating through the circulation and seeding in distant organs.

Among her remarkable achievements, Sarah-Maria Fendt has provided compelling evidence of cell metabolism as an important contributor to the initiation of metastasis from diverse tumors in mice and also in patients. She notably demonstrated that blood vessels regulate the levels of the metabolic enzyme phosphoglycerate dehydrogenase (PHGDH) and thereby facilitate the invasion of blood vessels by disseminating tumor cells. Moreover, she has discovered several metabolic connections that were previously unknown. These provide a new perspective on the role of metabolism in metastatic cells leaving the primary tumour. Moreover, she has shown that when the tumour cells reach a new organ, this new niche can change their metabolism. This uniqueness could be used to specifically target these cells.

Taken together, the work of Sarah-Maria Fendt has received world-wide recognition and offers hope for the future development of therapies for metastatic cancer.