

PRESS & MEDIA RELEASE

Infection and Cancer: A half a Million Swiss Francs for two research projects

Zurich, 26 October 2022 – Two research scientists from Switzerland and Sweden will receive the Swiss Bridge Award 2022 for their research projects on infection-related cancers. The award sum of 250,000 Swiss francs each will be invested in the implementation of their promising projects.

Infections with certain viruses and bacteria, such as the human papillomavirus (HPV) or *Helicobacter pylori*, are considered risk factors for the development of cancer. Worldwide, they are responsible for about 15% of all cancer cases; in low- and middle-income countries even for up to 30% of all cases. However, not every infected person develops cancer. Why this is so, however, is still poorly understood. To prevent or better treat more infection-related cancers in the future, further research is therefore urgently needed.

For this reason, the Swiss Bridge foundation has decided to dedicate the 2022 Swiss Bridge Award call to the topic of infections and cancer. A total of 32 young scientists from all over Europe applied for the award this year. In a two-stage evaluation process, a scientific jury of distinguished experts gave priority to two research projects. The main investigators, Michal Bassani-Sternberg from the CHUV University Hospital in Lausanne and Sylvain Peugot from the Karolinska Institutet in Stockholm, will each receive 250,000 Swiss francs to be invested in the realization of their research projects.

In quest of viral antigens

Michal Bassani-Sternberg and her team have been working on the development of personalized immunotherapies against cancer. Their research is based on tumor antigens, which are presented on the surface of cancer cells and can be recognized as foreign by the immune system. In the award-winning project, the team is focusing specifically on the antigens of viruses such as Epstein-Barr virus, human papillomavirus and Merkel Cell Polyomavirus, which are associated with the development of lymphoma, cervical cancer, Merkel Cell Carcinoma (a rare but aggressive form of skin cancer) and other types of cancer. First, the researchers plan to precisely determine the protein fragments of the individual viruses. They will be displayed as antigens on infected cancer cells. Subsequently, they would like to identify special defense cells of the immune system - T cells - that have specific receptors and can recognize the viral antigens. Once identified, these T cells can be developed into advanced immunotherapies.

Better understanding of how cancer-promoting bacteria work

Sylvain Peugot and his team will investigate the role that certain bacteria in our intestinal flora play in the development and progression of colorectal cancer. Their work focuses on a tumor suppressor gene p53, which normally prevents healthy cells from becoming cancer cells. The researchers hypothesize, that certain bacteria in the intestine are able to disrupt the function of p53 and thus promote the development of colorectal cancer. The goal of the research project is to characterize these harmful bacteria in more detail and to determine the signaling pathways through which they regulate p53. A better understanding of these mechanisms may help to find new ways to treat colorectal cancer, either by targeting the cancer cells directly or by targeting the cancer-promoting bacteria.

*Over the past 25 years, the **SWISS BRIDGE** foundation has raised over 45 million Swiss francs for global cancer research and invested in innovative and high-quality research projects. In addition, the **SWISS BRIDGE AWARD** of at least 500,000 Swiss francs is presented annually for outstanding research projects. It is one of the most prestigious awards for pioneering cancer research and therefore enjoys a high national and international profile.*

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