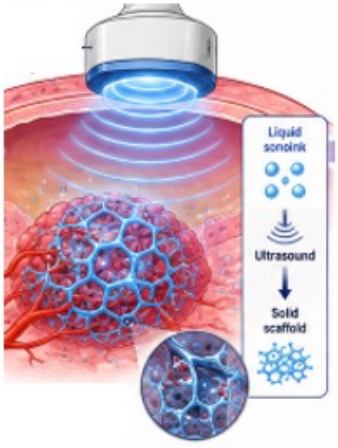
ISREC
Fondation Recherche Cancer

Prof. Ahmed

Dr. Gheinani

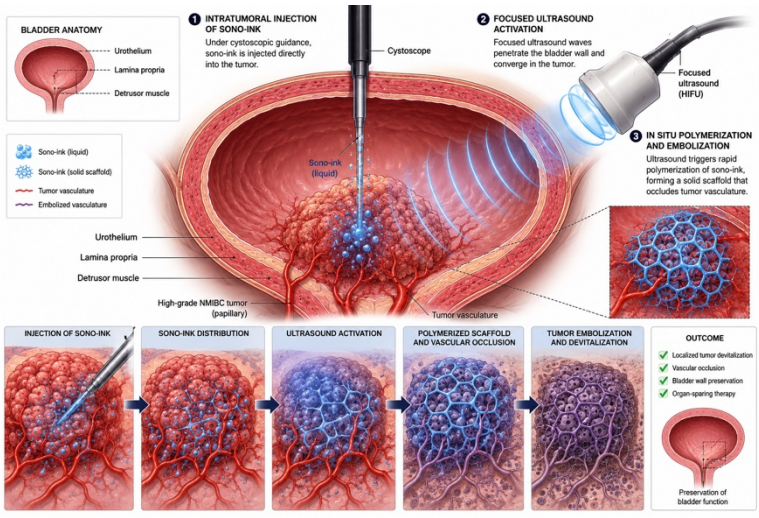
Prof. Roth



New ISREC-Funded Project Aims to Destroy Bladder Tumors Without Bladder Removal Through Ultrasound-Guided Embolization

We are delighted to announce that a collaborative project led by **Prof. Beat Roth (Department of Urology, Inselspital, University of Bern)** and **Prof. Daniel Ahmed (ARTORG Center for Biomedical Engineering Research, University of Bern)**, with the participation of **Dr. Ali Hashemi Gheinani (Department for BioMedical Research, University of Bern)**, has been awarded an **ISREC Tandem Grant** with funding of **CHF 400,000 over three years**.

The project, entitled **"Reconfigurable Ultrasound Printing-Guided Embolization for Minimally Invasive Local Treatment of Bladder Tumors,"** aims to develop a novel therapeutic platform that combines ultrasound technology, advanced biomaterials, and precision medicine approaches to enable minimally invasive local treatment of bladder cancer.



Bladder cancer patients with aggressive early-stage disease often face removal of the entire bladder when standard treatments no longer work. Our project aims to develop a new, minimally invasive alternative that could help preserve the bladder. The approach uses a

special biocompatible liquid that is injected directly into the tumor and then activated by focused ultrasound from outside the body. The ultrasound causes the liquid to solidify only within the tumor, blocking its blood supply and depriving cancer cells of the oxygen and nutrients they need to survive. By targeting the tumor while minimizing damage to surrounding healthy tissue, this technology has the potential to offer a safer, organ-preserving treatment option for patients with bladder cancer.

Selected through a highly competitive review process, the project brings together researchers from the **Faculty of Medicine at the University of Bern**, combining expertise in urology, biomedical engineering, ultrasound technologies, cancer biology, and translational research. The interdisciplinary collaboration seeks to establish new strategies for targeted tumor treatment while minimizing damage to surrounding healthy tissues.

The funding from the **Fondation ISREC** will support the development and validation of this innovative approach over the next 36 months, with the ultimate goal of improving treatment options for patients with bladder cancer. If successful, the technology could pave the way for a new generation of minimally invasive therapies for bladder cancer and other solid tumors.