



Press release

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CTI Medtech Award 2013: Targeting and destroying metastases

Bern, 27.08.2013 – The Commission for Technology and Innovation CTI announced the winner of the CTI Medtech Award 2013 and presented the prize of 10 000 francs at the Kursaal in Bern today. The winners – chosen from among three nominated projects by the experts present – are the firm CAScination and the ARTORG Center for Biomedical Engineering at the University of Bern, who jointly developed a navigation system for liver operations that allows surgeons to target and destroy metastases.

Stefan Weber (University of Bern) and Matthias Peterhans (CAScination AG) were presented the award in the shape of a trophy of quartzite stone from Vals and a cheque for 10 000 francs by CTI Director Klara Sekanina. Their project was selected from among three nominated projects by the audience of experts from the fields of research and industry.

Navigation through organs

A miniaturised light source and a camera are all that are needed to make bone, cartilage and ligaments in the body visible during an operation. The stomach and intestines can also be examined in this way. However, this simple imaging technology reaches its limits in solid organs with extremely branched internal vascular systems. This means that when medical technology develops a new, minimally invasive surgical technique for the brain, kidneys or the liver, it must always involve a highly complex navigation system. There are two stages to the method applied in the winning project: prior to the operation a virtual liver model is generated using raw data from CT scans. During the operation ultrasound delivers up-to-date images from inside the organ. In addition, a stereo infrared camera records the position



of the instruments. "The technical challenge," says Stefan Weber, Director of AR-TORG Center for Biomedical Engineering at the University of Bern, "is to integrate the different images." Thanks to CTI funding he was able to push on with the project together with Matthias Peterhans, his former doctoral student and the current CEO of CAScination: the maximum deviation between the 3D visualisation generated and the ultrasound images is now less than 0.5 millimetres. The advantage compared to traditional invasive methods is clear: the quota of operable patients is far higher. Only one in five patients with metastases can be operated on using invasive methods.

CTI Medtech Initiative

The CTI Medtech Initiative was launched in 1997 and has since funded over 490 projects to the tune of over CHF 160 million. CTI Medtech pursues two main objectives: to improve the innovativeness and competitiveness of Swiss medical technology and to stimulate the transfer of know-how between researchers, medical technology companies, start-up companies and SMEs. Each year, an average of 30 projects are sponsored. In addition between 10 and 20 start-ups from the medtech sector take part in CTI training and coaching programmes.

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