



CAScination AG is an award-winning medical technology company dedicated to development, manufacturing and commercialization of innovations in computer-assisted and image-guided surgery. Our CAS-One planning and navigation system is used to treat patients suffering from soft tissue cancer (e.g., liver cancer) by many hospitals across Europe.

We offer the following Master thesis topic:

Precision tool for novel pancreatic cancer treatment

in collaboration with the ARTORG Center.

The Thesis

Background: Patients with pancreatic cancer have a low survival rate as resection is often not feasible if tumours are located close to structures at risk and thus require a palliative treatment. Irreversible electroporation (IRE) represents the new treatment alternative for patients with locally advanced, unresectable pancreatic cancer. IRE is based on high voltage pulses applied between inserted needles to cause cell death of the affected tissue. CAScination is working on a solution to intraoperatively navigate these IRE needles according to a pre-operative plan.

Idea: The student will work together with a pancreatic cancer surgeon and a PhD student to develop a highly relevant, pre-clinical prototype to guide the needle along a specific ultrasound plane using precision mechanics and computer-assisted navigation technology.

Tasks:

- Attendance of pancreas surgeries to gain in depth medical knowledge.
- Requirement and design specification.
- Mechanical device development (adjustable precision tool)
- Prototype production and 3D printing.
- Evaluation with clinical team.

Your Profile

- Master student (FH/ETH/University) in biomedical engineering or computer science.
- Background in mechanical design or production
- Significant experience with 3D-CAD software.
- Open, dedicated and self-driven person.

Does this master topic pique your interest? Then please send us your complete application documents* (CV, motivation letter, working references, diploma, etc.).

Contact:

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