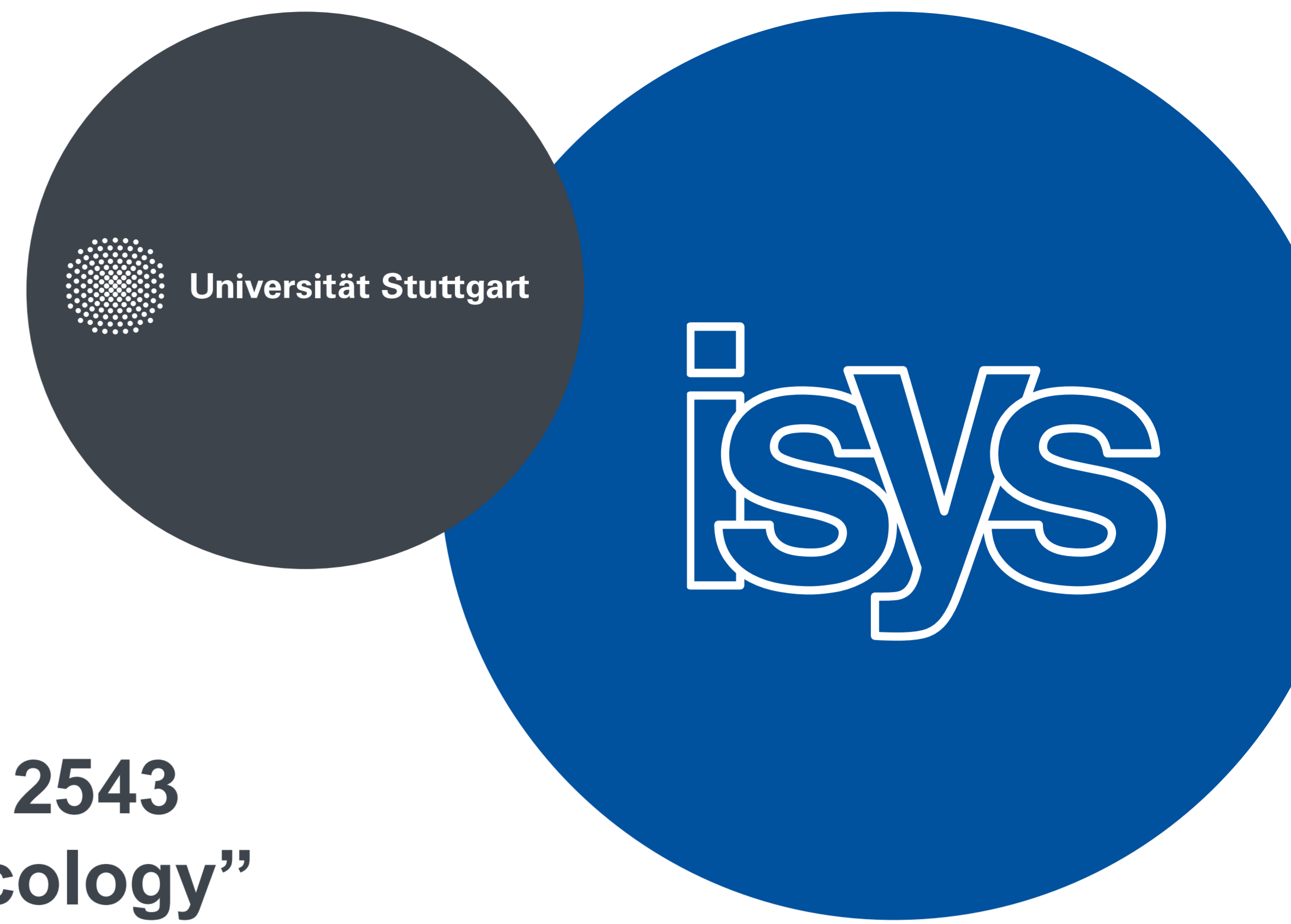


Universität Stuttgart

Institute for System dynamics

Prof. Dr.-Ing. Dr. h.c. Oliver Sawodny
oliver.sawodny@isys.uni-stuttgart.de
Tel. +49 711 685-66302



PhD Position

**in the interdisciplinary Research Training Group (RTG) 2543
“Intraoperative multi-sensor tissue identification in oncology”**

Project A5: Tissue identification using electrical impedance spectroscopy
to be filled by April 1, 2023 for a contract period of 3 years

New surgical methods aim to minimize invasiveness, morbidity and duration of the treatment while maximizing the effectiveness. During these surgical interventions, a reliable identification of target structures and surrounding tissue is of major importance for achieving this objective, particularly in the field of oncology. The RTG focuses on intra-operative tissue identification. The fusion of novel multimodal sensor systems by means of machine learning offers a high potential for new procedures to discriminate between tissues that goes beyond the information content of the separate sensor data. Please find more information here

<https://www.isys.uni-stuttgart.de/en/research/medicalEngineering/>

The aim of the project A5 is to develop methods for discriminating different tissues based on their dielectric properties. In order to maximize the quality of the classification, the combination of model-based analyses of the transient processes during impedance spectroscopy with data-based approaches is investigated.

Expected qualifications

- Excellent master degree in engineering cybernetics, medical engineering, electrical engineering or a related field
- In-depth knowledge and interest in the areas of system modelling, system dynamics, signal processing and machine learning techniques, as well as experimental validation
- Knowledge of programming languages (Python, Matlab/Simulink or C)
- Good communication and team skills

Remuneration

The remuneration is based on the collective bargaining agreement for the public service TV-L according to remuneration group E13 (100%). The position is limited to 3 years.

Starting Date

April 1, 2023

The application deadline is January 31, 2023. The workplace will be in Stuttgart.

Applications (in German or English) including informative documents, a cover letter, signed CV, copies of earned university degrees, and transcripts of individual grades are to be sent in digital form (one pdf document) to

Prof. Dr.-Ing. Dr. h.c. Oliver Sawodny
Oliver.sawodny@isys.uni-stuttgart.de and sekisys@isys.uni-stuttgart.de

The University of Stuttgart wants to increase the proportion of women in the scientific field. Therefore, women are explicitly asked to apply. Full-time positions are fundamentally divisible. Handicapped applicants will be given preference if equally qualified. The setting is made by the central administration. Information on handling applicant data can be found at <https://www.tik.uni-stuttgart.de/das-tik/stellenangebote/datenschutzerklaerung-bewerbungsverfahren/>

www.isys.uni-stuttgart.de

