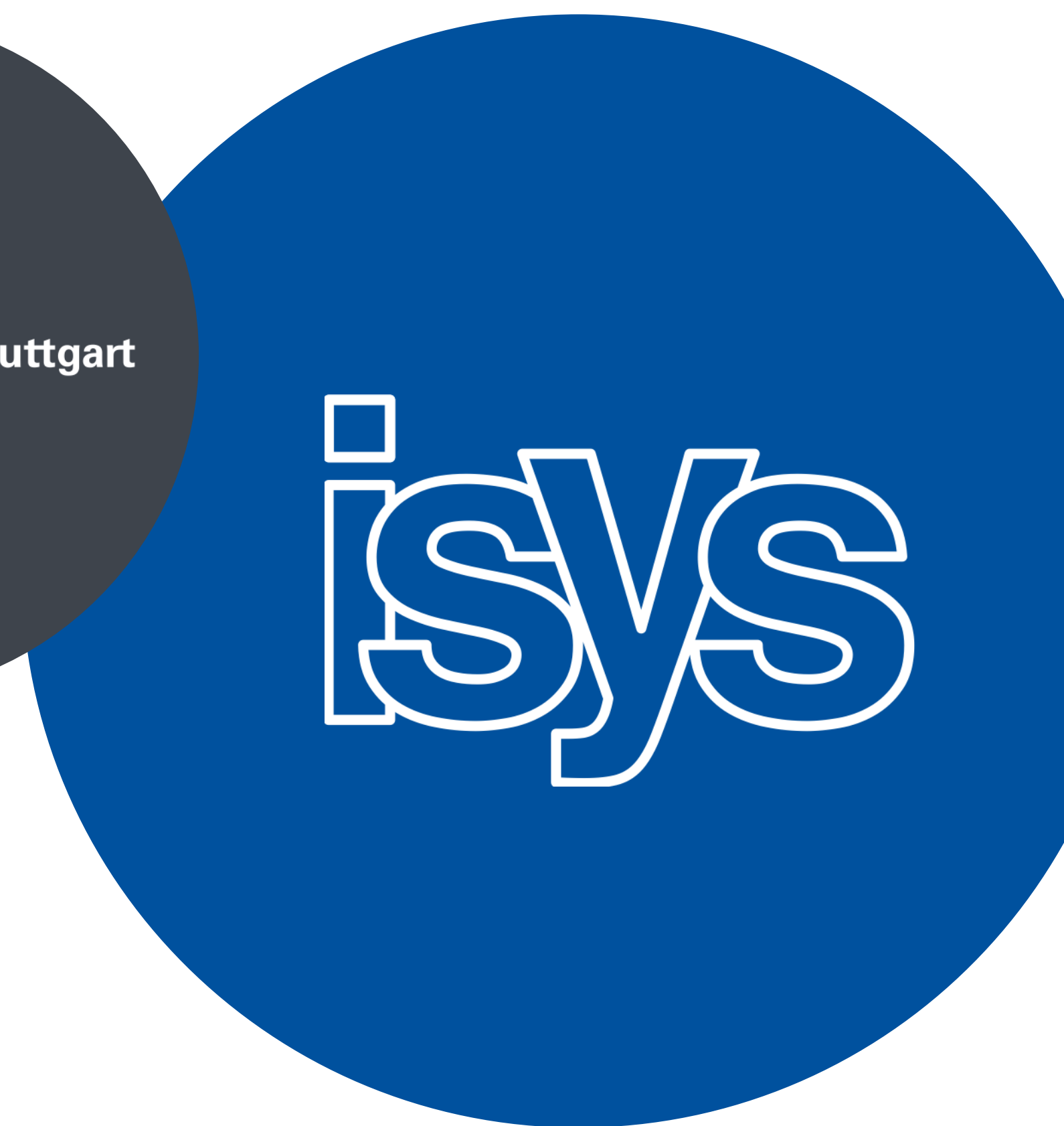


Universität Stuttgart

Institute for System dynamics

Prof. Dr.-Ing. Dr. h.c. Oliver Sawodny



PhD Position

in the interdisciplinary research training group (RTG) 2543

“Intraoperative Multi-Sensor Tissue Identification in Oncology”

Project B3: Multi-modal data driven sensor fusion

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 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 B3 is to develop methods in the area of multivariate statistics that are able to analyze the extensive record data sets that result from the different measurement methods. Through inclusion of local tissue parameters and tissue models, the classification quality of the multimodal methods for tissue discrimination is improved by means of data-driven sensor fusion.

Expected qualifications

- Excellent master's degree in engineering cybernetics, electrical engineering, computer science, or related field
- In-depth knowledge of signal and image processing, machine learning techniques, system dynamics
- Programming knowledge in Python, C/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, and copies of university diplomas and transcripts are to be sent in digital form (one pdf document) to

Prof. Dr.-Ing. Cristina Tarín

cristina.tarin@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

