

## **Available research project: Permanent magnet optimization using machine learning for spin sensing applications**

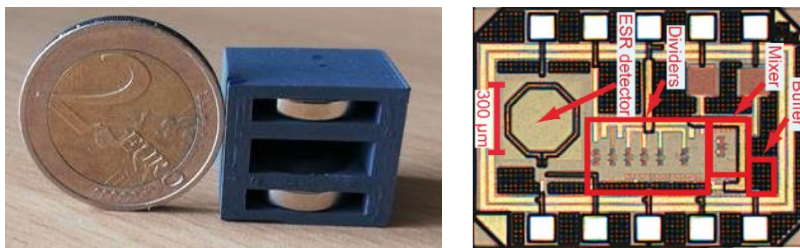
We are looking for a master's student to conduct a research project involving designing, assembling, and characterizing an innovative permanent magnet concept using machine learning. The student will later conduct electron spin resonance (ESR) measurements using the designed magnet and our existing high-frequency electronic chips. Depending on the progress, we intend to offer afterwards a master's thesis, which will focus on designing a portable ESR spectrometer. This will incorporate the designed magnet, our chip and additional signal processing PCBs and FPGA/DSP programming. IC design using CMOS/BiCMOS technologies is also possible within the thesis' scope.

From our side, we are experts in magnet design and magnetic resonance electronics and are committed to motivating and supervising our student. Our institute offers a stimulating working environment with state-of-the-art measurement equipments and design softwares. We expect a self-determined student with background/interest in electronics and measurement techniques.

Feel interested and need further information? Feel free to contact us for a discussion. Please include your CV and a short self-introduction in your email.

Contact person: M.Sc. Anh Chu [anh.chu@iis.uni-stuttgart.de](mailto:anh.chu@iis.uni-stuttgart.de)

Position available until filled (starting 26/3/2022). Project duration: 3 months with possible extension to a master's thesis.



Sample magnet and chip designed at IIS

