

## International team of students develops smart ECG

**In the cooperative study programme Electrical Engineering at the HWR Berlin, an electrocardiogram system is currently being developed together with the Colombian Universidad Tecnológica de Pereira.**

05.05.2022

The ECG system is to be used initially in areas with weak or non-existent cardiological medical infrastructure.

The project is not only international, but also interdisciplinary: the team from HWR Berlin is developing the hardware and software for the system worn by the patient, while the team from UTP is developing the algorithms and system software for the further gateway and server applications for analysing the data using machine learning and artificial intelligence approaches.

This system can save the lives and physical integrity of people in regions which, due to their geographical location, have no access to early cardiac detection until now. This alone is a high motivation for both project teams in Pereira and Berlin.

The project language is English and the international cooperation also promotes the soft skills of all participants.

This project uses the good synergies of the different study subject lectures and supports the practical implementation and consolidation of the students' theoretically acquired knowledge.

For example and with emphasis:

1. Basics of C-Programming/Electrical Systems/Digital technis in Semester 1/2
2. Embedded Systems in Semester 3
3. Study Project I. in Semester 4
4. PCB Design in Semester 5
5. Thesis in Semester 7

Furthermore, two exchange students of the cooperative degree programme Computer Science from Spanish partner universities of the HWR Berlin were integrated into the project. During their exchange semester at the HWR Berlin, they developed a PC-side Toolchain for Data visualisation and -analyses for validation and device development support of the Smart ECG Project.

Of course, such an international project cannot function without organisational support. Thanks to the International Office with Birgitta Kröll, to Prof. Dr. Andreas Zaby as President, to the Dean of the Department Prof. Dr.-Ing. Thorsten Kurzawa as well as the Division Directors Prof. Dr.-Ing. Sven Cichos (Electrical Engineering) and Prof. Dr. Höhne (Computer Science).