

## News and progress of the project

### 11.-13.10.2023 | Saxion University of Applied Sciences visits THB



From October 11 to October 13, 2023, [Niek Zuidhof](#) and [Margot van Rees](#) from Saxion University of Applied Sciences ([Lectoraat Technology Health & Care | Saxion](#)) from the Netherlands visited Brandenburg University of Applied Sciences at the invitation of [Prof. Dr. Katharina Frosch](#).

Following the successful collaboration on a publication about mobile micro-learning, further opportunities for collaboration were explored during the visit. Niek Zuidhof and Margot van Rees were given insights into teaching and research at the THB. The exchange on interventions, intelligent technologies and robotization led to further points of contact for research and teaching cooperation. In two productive days, concrete plans were developed for a Massive Open Online Course (MOOC) on the topic of learning in the workplace (also

with and through technology) and the exchange of students, as well as further potential research projects.

About [Saxion University of Applied Sciences](#):

Saxion University of Applied Sciences is one of the largest institutions of higher education in the Netherlands, with close to 27,000 students. Saxion University has a rich history - its roots can be traced back to 1875. A merger of two educational institutions, the Hogeschool Enschede and Hogeschool IJsseland, paved the way for Saxion University in its present form in 1998. Saxion University has come to be recognised as an important centre of expertise at a regional, national and international level. Saxion is divided into eleven individual schools, offering degree courses in economics, management, business, ICT & Media as well as Life Science, among others.

## 25.02.-05.03.2023 | Winter School at 33 °C with German students and teachers at the Kenyan partner university MMUST





The Winter School in Kenya is the counterpart to the Summer School that took place in Brandenburg in September 2022. At that time, students and teachers from Masinde Muliro University of Science and Technology from Kakamega/Kenya (MMUST) visited us. This time, 10 students from all departments, as well as 2 teachers and 2 academic staff members visited the Kenyan university.

The projects started during the Summer School 2022 and continued over the semester: "portable, app-based telemedical suitcase", "mobile solar box" and "app-based biodigester", are expected to enter their final working phase during the Winter School, to be completed and finally presented. During the Winter School at 33°C and sunshine, the students successfully implemented the last steps of their project work and put all elaborations together. The final colloquium in front of a Kenyan audience and the subsequent handover of the projects was a highlight of the trip. Of course, the professors of the THB were also busy and offered lectures for all interested people of the university in Kakamega. Prof. Dr.-Ing Peter Flassig illustrated in his workshop the complex topic of modeling, experimental design and design optimization with the help of paper airplanes, where all participants could actively tinker. Prof. Dr. med. Thomas Schrader shared his knowledge with the prospective physicians and physiotherapists of the university in the form of a lecture on

tele-physiotherapy.

But a winter school abroad does not only mean getting to know the educational institution, but also getting to know the country, the culture and the people. Many evenings spent together enjoying typical Kenyan specialties provided insights into local customs and traditions. Shopping at the market places on the busy streets of the city could not be missed, of course. Nature also held many interesting things in store. One highlight of the trip was a visit to the "Kakamega Forest National Reserve", a nature reserve with rainforest. During a guided tour along the winding paths, everyone was able to learn a lot about the local flora and fauna. The long walk through the humid climate of the forest was rewarded with a beautiful, far-reaching view over the country. And also for the way back



In November 2022, Professor Dr. Thomas Schrader traveled with 10 students to snowy Tartu (Estonia). On site, the medical informatics students (Bachelor and Master) worked with the students of the Tartu Health College in an interdisciplinary and application-oriented way on the conception and development of a telemedical service for physiotherapy. The cooperation combines the expertise of the Estonian university in the field of physiotherapy with the expertise of the medical informatics department of the Brandenburg University of Technology.

The joint study week had three focal points. On the one hand, movement measurements were taken, which were used to develop a telephysiotherapy app. In the app, a model from the field of machine learning is used to calculate 3D coordinates of human joints. This can then be used to derive angles and distances, which are in physiotherapy for determining the range of motion (ROM). In this way, it can be determined more precisely in a remote setting up to which angle a patient can move comfortably and from which angle the exercises are effective, e.g. in treatment after a broken upper arm. Another measurement performed during the study week was the measurement of stiffness in the muscle after the effort - in this case wall sitting - and at different intervals afterwards. The two measurements formed a part of the study week in Tartu, while lectures and talks on the topics: Introduction to Statistics, Introduction to the Structure of Muscles, Presentation of the Tensiometer and the Presentation of Results of the Telemedicine App, form the other part. The educational program was surrounded by nice dinners, a little sightseeing and a tour of the Tartu Health College.

During the remaining part of the semester, the participating students wrote a concept for the app described above. In addition, a student research project will investigate the accuracy of the app (deviation of the angular measurements from reality) and a concrete implementation of the app that goes beyond a prototype is being planned. The cooperation with the Tartu Health College, is enriching for both sides and will be continued with a return visit to the Brandenburg University of Applied Sciences in May 2023.

## **17-18.11.2022 | Network meeting with existing and potential partners**



On November 17-18, 2022, professors and representatives of universities from six different countries visited the campus of Brandenburg University of Applied Sciences to attend the Inter<sup>3</sup>DNA Network Meeting.

Represented were:

- Gdansk University of Technology, Polen
- Fundació TecnoCampus UPF, Spanien
- Tallinn University, Estland
- Odessa Polytechnic National University, Ukraine
- Tecnológico de Monterrey, Mexiko

- Tishk International University, Irak

United by the shared idea of fostering international cooperation in teaching and research, the guests presented their universities and engaged in discussions about future collaboration with participants from Brandenburg University of Applied Sciences. Among the topics discussed were student mobility, joint international projects, and double degrees. We thank our dedicated guests for their visits and the very valuable exchange. We look forward to continuing the conversations and strengthening internationalization together.

Here is more information from the university

[www.th-brandenburg.de/hochschule/aktuelles/news-aus-den-bereichen/aktuelles-details/news/3568-internationales-netzwerktreffen-mit-menschen-aus-6-laendern/](http://www.th-brandenburg.de/hochschule/aktuelles/news-aus-den-bereichen/aktuelles-details/news/3568-internationales-netzwerktreffen-mit-menschen-aus-6-laendern/) and Maz (a local newspaper)

[www.maz-online.de/lokales/brandenburg-havel/brandenburg-an-der-havel-wissenschaftler-aus-sechs-nationen-besuchen-thb-UZJLES4EI2BYPCWQYJEKVSUDIM.html](http://www.maz-online.de/lokales/brandenburg-havel/brandenburg-an-der-havel-wissenschaftler-aus-sechs-nationen-besuchen-thb-UZJLES4EI2BYPCWQYJEKVSUDIM.html).

## Beginning of November | "Digitalization of cultural heritage" workshop trip to Jordan

Together with Professor Julia Schnitzer and Professor Dr. Olga Levina, seven students visit the German Jordanian University (GJU) to work for one week in cooperation with students of the GJU on project work on the topic "Digitization of Cultural Heritage". The students are creating digital reconstructions of historical sites that can be used as a functional application (e.g., as an app) to convey historical background knowledge.

## 2-8.10.2022 | International Media Camp @TecnoCampus Mataró





Cool media projects are not only created in the labs of the THB, but currently in Spain. 9 students of the Department of Computer Science and Media use the opportunity in the International Media Camp (IMC) to take photos, videos and 3-D scans in Barcelona Mataró to later use them to design websites, develop apps, 3-D animations or photos, and create films with special effects. At the same time, they learn at the partner university "TecnoCampus" Mataró how to dub films synchronously, design prototypes of apps or how video mapping works. The IMC is a sub-project of the Inter3DNA project, which is dedicated to the internationalization of the THB.

## **18.-25.09.2022 | Summer School with Kenyan students and teachers from MMUST @THB**





From September 18th to 25th, 2022, an exchange in the form of a summer school between students and teachers of THB and students and teachers of Masinde Muliro University of Science and Technology (MMUST, Kakamega, Kenya) took place at THB.

In this sub-project, THB and MMUST are working together on solutions for three use cases in the fields of agriculture, telemedicine and energy supply. The Summer School from September 18th to 25th was the kick-off week for a practice-oriented teaching cooperation between MMUST and THB. During the Summer School, students from different study programs formed interdisciplinary project groups for further virtual collaboration during the winter semester 2022/23 and got to know each other personally. In addition, agile working methods as well as technical content for the group projects were taught and jointly developed. To conclude the virtual cooperation in the course of the winter semester 2022/23, THB students will travel to Kenya at the beginning of 2023 to finalize their projects with the students on site and to test the solutions developed.

In the project groups, students from different courses and fields of study will work together in interdisciplinary teams on the following projects :

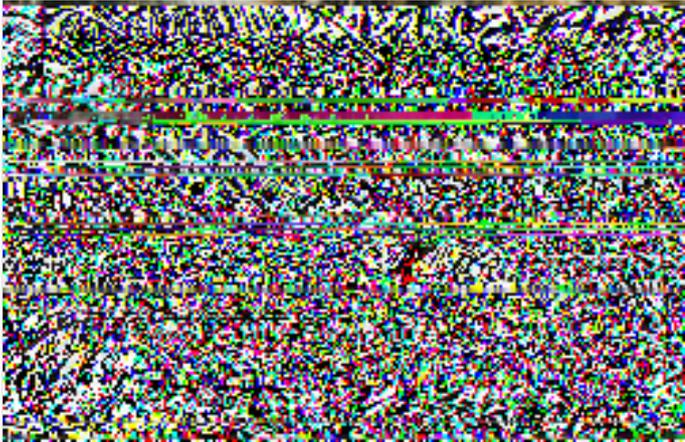
In the first project students work on the optimization of a biogas plant in a Kenyan village. The goal is to equip the biogas plant with IoT sensors (Internet of Things) and an app that can be used to control and monitor the plant.

The second project focuses on medical care in rural areas of Kenya. To this end, students are developing IoT-based solutions for telemedicine applications to record parameters such as ECG, partial pressure of oxygen, body temperature or pulse, so that patients can be examined even from a great distance.

Since infrastructure in western Kenya is poorly developed and electricity supply unreliable, a third team is working on the development of a solar-powered electricity generator that smallholders can use without prior knowledge.

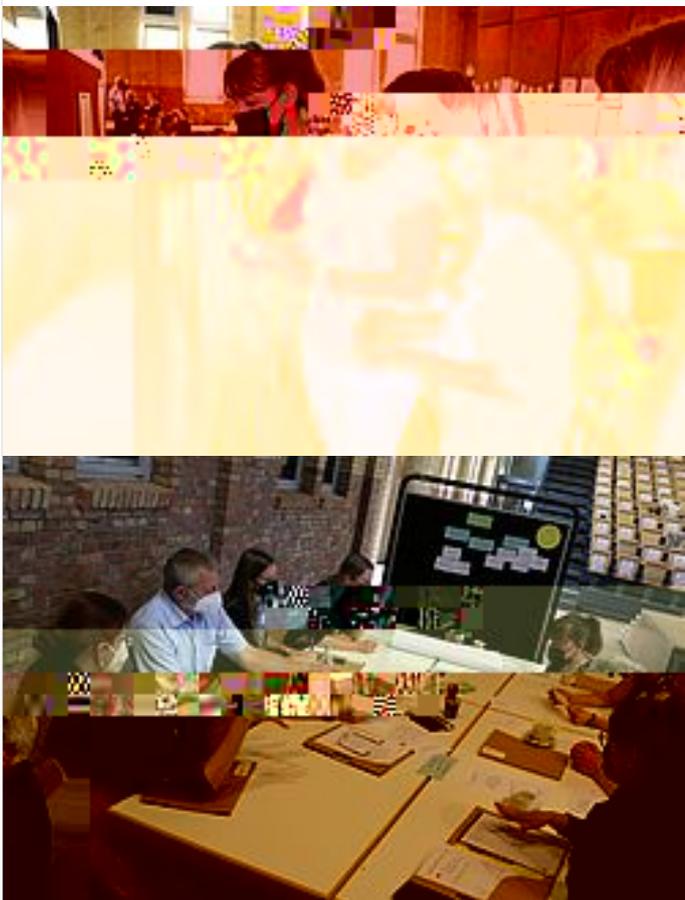
We are excited to see what the project teams will develop and what solutions they will propose. Finally, the results of the projects will be presented. Shortly a new update about the project will be added here.

## 21.06.2022 | Pub quiz "Around the world" with the AStA



At the "pub quiz" with the AStA we went on a big trip. In different categories, international knowledge about music, culture, culinary and geography was tested. The partner countries and cities of the THB and the fun were included as well. At the end, the winning teams could look forward to international snacks and prizes.

## 04.05.2022 | International kick-off workshop





Intercultural cooperation, linguistic diversity or global perspectives have been in the thematic focus - what does internationalization mean for us at the Brandenburg University of Applied Sciences and how can studies, teaching and research be made even more open to the world? We discussed these questions with 42 participants on 04.05.2022 and gained exciting insights into internationalization at THB. If you are interested in the results, please contact us!

## **15.03.2022-17.03.2022 | Visit to Mataró (Spain)**



To expand the cooperation with our partner university TecnoCampus in Mataró (Spain) and to establish a teaching cooperation (International Media Camp) in the Department of Computer Science and Media, a delegation of the THB visited the TecnoCampus in March 2022.