We are searching for a student assistant for the

Setup and Maintenance of a Molecular Communication Networks Testbed for 6G and beyond

Molecular communication (MC) is an alternative to classical electromagnetic wave-based communication, where molecules are used for information exchange. MC is expected to enable in-body networks for future medical applications in the Internet of Bio-Nano Things, a vision for 6G and beyond.

We seek a working student to help us set up and maintain a molecular communication networks testbed at the chair. The testbed will be based on ink molecules transmitted through a water-filled tube system with a background flow. We plan on using spectral absorption measurements to detect the information molecules.

What you will do

- Set up the tubes, pumps, sensors, and other components
- Program microcontrollers to control microfluidic pumps and spectral sensors
- Debugging and fault detection in both software and hardware
- Implement data collection methods

What you need

- Interest in future and unconventional communication methods
- Willingness to learn new things and a hands-on mentality
- Experience in (low-level) programming (e.g., C/C++), preferably with microcontrollers/Arduinos for controlling sensors

What would make you stand out

- Already worked with spectral sensors
- Experience with CAD, 3D printing, and soldering

Application

If this sounds interesting to you, let us know via E-mail so we can get to know you. Please include some lines about you and what would make you a good fit, as well as your Transcript of Records.

Supervisors

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