

# Seminar: Wireless Technologies for Embedded Systems

Communication between embedded systems nowadays is not limited to internal data buses and shared memory but has evolved over the time to include communication channels over wireless protocols as well. However, embedded systems' applications retain high requirements profile that proves to be hard to maintain. Among many protocols available, the IEEE 802.11 protocol (also known as WiFi) spread widely due to its rich topologic features and bandwidth support. Bluetooth has also emerged as a standard inter-device communication protocol and has a very wide spectrum of applications. Ultra Wideband (UWB) is a new protocol that is gaining ground in the field of short-range communication.

## Seminar Topics

- WiFi (ad hoc), Bluetooth and UWB; a comparative study.
- Replacing wiring in the automobile industry with wireless communication; possibilities and perspectives.
- Intra-Vehicle communication; applications, available technologies and glimpse of the future.
- Networking in intelligent homes; power-line networks vs. WiFi, a comparative study on feasibility, economics and perspectives.

## Requirements & Organization

- You are a Student of Media Informatics in the B-IT, Dipl.-Inform., Master Informatik, SSE or Automatisierungstechnik.
- Each topic is originally thought for two participatns.
- To choose a topic please contact the supervisor.
- The language of text production as well as seminar presentation is English.
- The final presentation takes place in the B-IT center in Bonn.

## Dates

The seminar will be held as a block seminar in Bonn at the end of the semester. Exact date and time will be communicated with registered students.

## Supervisor

- [Kamal Barakat, M.Sc](#)

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