Wireless Communication Research Laboratory | Prof Güneş Kurt

- Channel modelling

- Cross layer security systems

- Localisation

- Network coding in wireless systems

- Software defined radio based test bed implementations

- Wireless cyber-physical systems

- Wireless energy transmission

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- Security measures designed for wired systems are used for the current mobile communication systems.

- However, unlike transmission of data through a cable, the wireless communication channel is a non-guided and extremely challenging medium that is shared by all users.

- Hence, security in mobile communication systems cannot be maintained with traditional security techniques.

Physical Layer Security Framework (PLSF) For Aerial Multi-Agent Systems

- In this project, a PLSF will be designed for aerial multi-agents systems.
- PLSF will make use of space, time and frequency selectivity of the multi-antenna and multi-carrier systems, targeting beyond 5G networks due to their low complexity channel equalisation and high data transmission rates.
- PLSF will target secrecy, authentication, integrity and robustness perspectives and will provide reliable and energy efficient communications against known attacks.
- The communication system with PLSF will also be developed for practical systems that are currently in use, including wireless local area networks and aerial communications.