

# 5G-V2X Systems and Connected Cars Summer School

16 July 2018 – 03 August 2018

**Organized by**

**Vehicular Networking and Intelligent Transportation Systems Research Group**



## Scope

As the V2X communication is one major part of 5G Systems, V2X systems became key components of Intelligent Transport Systems (ITS); enabling and integrating the use of new technologies, communication standards and the infrastructures, and enabling a range of important applications and services such as multimedia content sharing, traffic monitoring and safety enhancement.

In the roadmap and standardization of 5G, 3GPP issued Release 14 in 2017 June and Release 15 recently. These new standards include V2X communication and provide solutions for the connectivity between vehicles and between vehicles and infrastructure. In Release 15, new services are also introduced e.g. autonomous driving and automated platooning.

Considering these advances and the on-going/proposed projects on V2X communications, this summer school aims to provide:

- a state-of-the-art overview
- study on V2X and 5G-V2X standards (Release 14 and Release 15)
- study on the use cases included in Release 15 (e.g. Platooning, autonomous driving)
- detailed analysis and requirements definition for the use cases that will be demonstrated
- hands-on programming for the simulation of 5G-V2X communications
- definition of the requirements for the test-bed and demonstrations

## Program

The summer school is planned for three weeks. Starting with an overview of the state-of-art V2X Systems, standards on 5G-V2X communications (Release 14 and Release 15) will be discussed in detailed. A one-week hands-on programming training will be given to build the simulation environment for V2X systems and communications (LTE and V2X). Sample applications and scenarios will be implemented and tested on the simulation environment. Considering the on-going and recently proposed projects, R&D tasks and demonstration requirements will be evaluated to build the test-bed for 5G-V2X.

## Schedule

<b>Week</b>	<b>Date</b>	<b>Weekly Schedule</b>
1	16-20 July 2018	a state-of-the-art overview, study on V2X and 5G-V2X standards (Release 14 and Release 15), study on the use cases included in Release 15 (e.g. Platooning)
2	23-27 July 2018	hands-on programming for the simulation of 5G-V2X communications and building the simulation environment
3	30 July 2018 – 03 August 2018	detailed analysis and requirements definition for the use cases that will be demonstrated definition of the requirements for the test-bed and demonstrations

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