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Please select Track Preference as **ETMA-CAV**

Special track

ETMA-CAV: Emerging Technologies, Methodologies, and Applications for Connected and Autonomous Vehicles

Chair:

Dr. Ali Jalooli, California State University, Dominguez Hills, CA, USA
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along with
CTRQ 2022
The Fifteenth International Conference on Communication Theory, Reliability, and Quality of Service
April 24 - 28, 2022 - Barcelona, Spain
http://www.iaria.org/conferences2022/CTRQ22.html

The new era of the Internet of Things and Cyber-Physical Systems is promoting the evolution of self-driving vehicles into connected and autonomous vehicles (CAVs), which enable modern intelligent transportation systems in smart cities. Recently, there have been remarkable developments in CAVs technology for providing vehicles with connectivity by integrating the capabilities of new generation wireless technologies (e.g., LTE, 5G, and potential future development of 6G). CAVs provide various benefits, spanning from advanced driver assistance, remote diagnostics, and infotainment for consumers to road safety, improving response time for emergency vehicles, and even improving economies by ameliorating traffic congestion.

The success of CAVs is highly dependent on the performance of the underlying wireless networks known as vehicular networks. The federal communication commission (FCC) has allocated 75 MHz of spectrum in 5.9 GHz band for dedicated short-range communication (DSRC), which uses IEEE 802.11p and is designed to support intelligent transportation systems with traffic safety and operations. The IEEE 802.11p makes wireless communication suitable for vehicular environments by providing physical and medium access control layers. Considering that CAVs' applications require data to be exchanged among vehicles promptly, recently, heterogeneous network solutions have drawn remarkable attention as a potential wireless access candidate for CAVs communications. Heterogeneous wireless access allows the coexistence of DSRC and cellular networks to exploit the advantages of both technologies while mitigating their drawbacks.

Due to the rapid development of CAVs and their enabling technologies, they still face many challenges in real-world scenarios, e.g., reliability of connections, integration of dedicated communication and networking technologies, security and privacy, adaptability of CAVs to dynamic environments, etc. Therefore, this special track is inspired by the recent developments in diverse domains of CAVs in smart cities spanning from the areas of driver assistance systems to fully automated vehicles, from vehicular

network protocols to CAVs applications, from cybersecurity to edge and fog processing, and from verification to scalability problems.

Topics include, but are not limited to:

- • Connected Vehicles
- • Traffic modeling and optimization of connected vehicles
- • Machine learning applications in autonomous driving
- • Security and privacy issues in connected and autonomous vehicles
- • Blockchain and Cryptography
- • IoT and Machine Type Communications
- • Edge Computing, Edge Intelligence, and Fog Networks
- • Network Slicing
- • Internet of Vehicles (IoV)
- • 5G and Beyond 5G Mobile Networks, 6G

Contribution Types
- Regular papers [in the proceedings, digital library]
- Short papers (work in progress) [in the proceedings, digital library]
- Posters: two pages [in the proceedings, digital library]
- Posters: slide only [slide-deck posted on www.iaria.org]
- Presentations: slide only [slide-deck posted on www.iaria.org]
- Demos: two pages [posted on www.iaria.org]

Important Datelines
- Inform the Chairs: As soon as you decide to contribute
- Submission: March 11, 2022
- Notification: March 27, 2022
- Registration: April 6, 2022
- Camera ready: April 6, 2022

Note: The submission deadline is somewhat flexible, providing arrangements are made ahead of time with the chair.

Paper Format
- See: http://www.iaria.org/format.html
- Before submission, please check and comply with the editorial rules: http://www.iaria.org/editorialrules.html

Publications
- Extended versions of selected papers will be published in IARIA Journals: http://www.iariajournals.org
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Registration

- Each accepted paper needs at least one full registration, before the camera-ready manuscript can be included in the proceedings.
- Registration fees are available at http://www.iaria.org/registration.html

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