



Autonomous Vehicles

Are they as safe as we are led to believe?



Prestige Seminar: Wednesday 20 November 2019 – 18:45 to 21:30
Weston Auditorium, De Havilland Campus, University of Hertfordshire, Hatfield, AL10 9EU

Free entry - advance registration required – book online

Autonomous or driverless vehicles have the potential to reduce the 1,770 deaths, nearly 25,000 serious injuries and 138,500 lesser casualties each year on UK roads. Those vehicles depend on sensors, cameras, radar, LIDAR, communication with each other and software including decision making to mitigate an imminent accident.

A three year UK Autodrive project ran trials with connected and autonomous vehicles on test track and in Coventry and Milton Keynes, and investigated public engagement, legal and insurance, and safety and security issues. There have been trials of driverless delivery vehicles in urban areas, and plans for driverless buses at airports. Also, UK software developers FiveAI and Oxbotica are working towards autonomous taxis, initially on fixed routes.

Driverless technology is further ahead in other countries where road layouts are probably simpler. In North America, motor manufacturers such as Ford, Tesla and BMW, and software developers such as Waymo and Uber, have been running trials of their technology. Jaguar Land Rover is developing driverless taxis using Waymo's technology. For freight transport, motor manufacturers such as Mercedes have run trials with trucks working in autonomous mode.

There have been a few fatal accidents in North America with vehicles in autonomous mode, so safety and legal concerns are delaying the wider deployment of autonomous vehicles. The latest models have more cameras and sensors than on those involved in accidents. Guidance notes, rules and codes of practice are starting to appear.

More ...

This seminar plans to address:

- Status of technology
- Safety, social, legal and ethical considerations
- Impact on infrastructure

The seminar will be chaired by **Tim Armitage**, ARUP, UK Autodrive Project Director.

The first speaker, **Nigel Wall**, Director Climate Associates, will give an introduction to the 5 levels of automation that have been defined and give examples of vehicles that have various levels of autonomous capabilities. His paper, **Progress towards Fully Driverless Cars**, will also touch some ethical and legislation questions

The second speaker, **Nick Carpenter**, Engineering Director, Delta Motorsport Limited, will talk about the **Autonomous vehicles: The status of technology development**. Nick will explore the fundamentals of what constitutes an autonomous vehicle, what's required to build one and the state of the art in each of the key on-vehicle technologies, from sensing to computing and vehicle motion. He will explore the key challenges in delivering a truly autonomous vehicle service.

The third speaker **Brian Matthews**, Head of Transport Innovation, Milton Keynes Council, will talk about **UK Autodrive - Exploring the potential for Connected and Autonomous vehicles in an urban environment**. He will explore the findings of this research programme and discuss how Connected and Autonomous Vehicles can potentially support wider mobility and social objectives for urban living in the context of a rapidly growing city, such as Milton Keynes.

The fourth speaker, **Prof Prashant Pillai**, School of Mathematics and Computer Science, Faculty of Science and Engineering, University of Wolverhampton, will talk about the **Security for Connected & Autonomous Vehicles** in the light of increased cyber security threats.

This evening seminar will be the twentieth annual prestige seminar organised by EMSTA CIC as a joint event with various professional engineering and science Institutions.

This free event is hosted by the University of Hertfordshire and will commence with light refreshments and networking in an informal environment.

An important element of the prestige seminar is the final chaired discussion when the audience can put forward their questions to the speakers and debate some of the issues discussed.

How do I attend? Entry is free, but advance registration is required.

Book online at <https://bookwhen.com/emsta>.

Helpline: 0845 474 3341*

** Calls cost 5p [plus 5p per minute after the first 60 seconds] plus your phone company's access charge.*

For more information visit www.emsta.org.uk/seminars.php

We would be particularly pleased if you brought a young person to this event: they may be involved in the widespread use of Autonomous Vehicles, and the attendant legal, safety and social aspects.

To discuss EMSTA's events and STEM project support, contact Roger Boddy, Chairman EMSTA. 07956 109337 or by e-mail chairman@emsta.org.uk.